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BULLETIN

OF THE

DEPARTMENT OF LABOR.

No. 20—JANUARY, 1899.

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BULLETIN

OF THE

DEPARTMENT OF LABOR.

No. 20. WASHINGTON. JANUARY, 1899.

CONDITION OF RAILWAY LABOR IN EUROPE.

BY WALTER E. WEYL, PH. D.

GENERAL CONSIDERATIONS AND RESULTS.

This report is a study of the general conditions of railway labor in a number of characteristic countries of Europe. The work was undertaken in a belief that a description of the conditions of labor in this great industry would furnish material by which to judge American experience, and that a comparison of railway labor as it exists in the United Kingdom, France, Belgium, Prussia, Saxony, and Switzerland would furnish a series of parallels and contrasts which would not be without value.

Railway men form a very considerable proportion of the total laboring population of the civilized world. In the United States over 800,000 men are employed by the railways and not much fewer than 4,000,000 people are supported by this industry (without counting allied occupations). In the United Kingdom about the same proportion of the working population is employed by the railway companies as in the United States, although many of these are not directly engaged in strictly railway work. The proportion in France, Germany, Belgium, and Switzerland is smaller than in the United Kingdom or the United States, but, considered both absolutely and relatively to the total working population, the proportions of railway employment are very large.

The value of a study of railway labor is to be defended not only on the grounds of the numerical size of the group, but upon the vital importance of the railway industry and the peculiar conditions of railway management itself. Railways have become for modern states a necessity of life. Without them the immense production, the minute

division of labor and function, the vast commerce, in short, the intense industrial life of to-day would be quite impossible. An interruption of labor, which in other fields is harmful, may become in the railway industry absolutely disastrous. The labor problem is thus accentuated and aggravated in this industry, and a greater pressure is brought to bear in order to preserve peace as far as possible. The quasi-public character of the railway industry, moreover, gives to the employees a somewhat exceptional position, and affects the problems which are common to workmen in all industries.

The problems connected with railway labor should not only be investigated, but they should be studied in their international bearings. The policy of advocating the bodily transference of a set of regulations found in force in one country to the labor conditions of another has been repeatedly and justifiably condemned. Labor problems, however, are international in character, as production is international, and in treating our own problems it will be of value to see how other nations have dealt with similar problems in their own countries.

The primary purpose of this report is not to solve problems, but to present a body of evidence which may be of service in their solution. The scope of the report is to give a general survey of the whole field. In the first place, the statistics of employment are considered and an attempt made to show how and why the number of employees has increased, the effect of increasing traffic upon the numbers employed, the extent to which a greater economy of the labor force has been effected, and the classes of employees influenced by these causes. In this connection the status of the employee is considered, the substitution of female for male labor discussed, and the general conditions of female labor on railways reviewed. The discussion of wages takes the form of a comparison of railway wages in several countries, a comparison between wages in the railway and in other industries, or of a consideration of the amount of wages paid in various grades of employment. Some emphasis is also laid upon the varying scale of wages in different parts of a country, or at different periods. The discussion of wages is also supplemented by a general treatment of extra remuneration of employees (free lodging, tips, gratuities, coal and oil premiums, etc.), and of the advantages offered to persons in the railway service. Under the head of "Hours of labor" the report considers the statistics of the hours of labor in the railway service, the regulation of the length of the working day in various countries, and the extent to which such regulation has been successful. Statistics of holidays and free days are also given as far as possible, as well as a consideration of Sunday labor.

In considering the relations between employees and the companies or administrations, emphasis is laid upon the methods of recruitment, the conditions of entrance into the service and of dismissal therefrom, the questions connected with casual labor also being considered in this

connection. Under this head the method and frequency of promotion are discussed, as well as the disciplinary regulations to which the employees are subjected. The problems of railway labor organization in the various countries are taken up in some detail, the history and present status of the chief railway labor unions being presented. The causes of the infrequency of strikes in the railway service are treated, and in several instances emphasis is laid upon important industrial struggles. The attitude of the companies and administrations toward the unions is described, and arbitration and other methods of settling labor disputes are considered in their historical connection. The subjects of relief, insurance, and pensions are treated in some detail, especially in those countries in which they are of importance and make up a part of the real earnings of the employees. The subject of accidents to railway employees is treated in connection with that of the liability of the company, and the phases of the legal status of railway employees are considered. In considering the various subjects comprised under the head of railway labor, however, uniformity of treatment is occasionally sacrificed in order to give to each topic its relative importance and to bring it into connection with other subjects with which, in the particular country, it is organically united.

The most salient fact observed in the whole field of railway labor is the exceedingly rapid increase in the labor force. Land transportation is becoming daily a more important factor in our industrial and social life, and, while the cost of each individual service is diminishing, the total amount of capital and labor devoted to the movement of persons and things is increasing by leaps and bounds. Two factors have contributed to an increase and one to a decrease of the labor force, the former being the increase in the length of the railways and the greater density of traffic on the old lines and the latter being the greater economy of labor force rendered possible on railways by improved methods and increased traffic. Each of these factors has operated to a different degree in each country and has affected different grades to varying degrees, as is shown later, but the great preponderance of the work-creating over the work-saving factors has caused in all the countries considered a large absolute increase in the number of employees and a relative increase in the proportion that railway employees bear to the total working population.

It seems evident from the start that railway labor must, on the whole, be subject to a series of influences similar to those found to be potent in other fields of labor. The factors that elevate or depress the standard of life of ordinary employees will operate with equal force upon men engaged in the railway service, and it would naturally be expected that railway wages would approximate with considerable closeness to wages in industries requiring a similar amount of exertion and skill. Of the truth of this general fact the investigation leaves little doubt. While the limits prescribed by time and space have usually prevented

a detailed comparison of wages of railway and of other employees, it is clear from the accompanying report that on the whole wages of railway men are high in the countries where ordinary wages are high and low where ordinary wages are low. The same correspondence is shown for different parts of the same country and for the urban and rural portions of a given country or district, the wages of railway men varying with the wages of the country and with the cost of living in the district in which the men live. A seeming exception is to be noted in several countries for the higher grades of employment, but this is due partially to the fact that wages are affected by the place where the men are recruited as well as by the locality in which they serve, and by the frequent necessity of importing such labor from places where it is dear to places where it does not exist, or at least not in sufficient quantity.

A comparison of the statistics of wages furnished in this report does not justify the conclusion that wages are higher or lower solely in consequence of the ownership of the railways by the State. Attempts were made to test the effect of State ownership on railway wages in several countries where the two systems coexisted—in France, Belgium, Austria, etc. The results, however, do not permit the establishment of a general rule, the ownership of the railways being inextricably mixed up with other considerations. To take a single instance, many of the variations in wages ascribed to State ownership appear to be due to territorial differences. Thus, the wages on French State railways will be influenced as much by the unfavorable situation of the lines and by the small amount of traffic as by the fact of their ownership by the State. It is interesting to note in this connection, however, the general desire on the part of the employees to allow the railways to pass into the hands of the State. The railway employees of England, of France, and of Switzerland, as far as their will is manifested in the utterances of their trade unions, express a strong wish for State purchase of railways, a demand which is being met in Switzerland. Whether the anticipations of the men, that the general conditions of the service would be improved, and that the Government would prove more susceptible to pressure than private companies, would be realized is at least doubtful, especially in view of the restraint put upon organizations of employees in Belgium, Prussia, etc.; but the feeling, at all events, is one that is very clearly expressed by the railway labor organizations in the countries named.

The question of the effect of State ownership and State control upon the rate of wages is intimately associated with another problem—that of the influence of other advantages accruing from the position upon the money wages. It is a truism in political economy that different positions appealing to employees of the same degree of skill, intelligence, and independence will be remunerated as far as money wages are concerned in inverse ratio to the other valuable considerations resulting from employment. Thus, a qualified engine driver might

prefer a salary of $8 a week to one of $10 or $12 if he were assured of a certain sum in premiums or in gratuities, and could count upon steady employment and upon a pension for himself or heirs in case of death, sickness, or disability.

This will explain many variations in wages to be found in different parts of the railway service and in different countries or on different systems within a country. The wages of conductors and porters on passenger trains need not be so high where the system of tipping is in vogue, and where coal and oil premiums are customary, and the direct money wages of the engineers and firemen need not be so great as in positions in which additional sources of income are not present. The low rates of wages on the French and German railways would be impossible—in other words, would cease to attract the same grades of men—if it were not for the pension funds established for the benefit of the men. A correct analysis of wages should take into account not only the money wages, but also the remuneration which comes in the form of pensions, relief, premiums, tips, and gratuities of all sorts, as well as the advantages arising from the fixed character of the employment. The evidence does not absolutely prove that such things as pensions and indirect contributions from the employing companies permit a greater saving in wages than such contributions cost the companies, and it is a matter of opinion based upon probabilities rather than of actual proof, but such, at least, appears to be the truth in very many instances.

Among the causes mentioned permitting a low rate of wages among railway men in Europe is the comparative stability of employment that there prevails. In this respect the railway service, even where not pertaining to the State, is somewhat similar to the Government service in Europe, where low wages are compensated for by the regularity of employment. Promotion by seniority, which is quite customary, at least on the Continent, also appeals to the same class of men, whose instincts lead them to forego all chances of obtaining the highest wages, for the sake of a moderate but secure and slowly increasing salary. The regularity of employment, however, presents difficulties in the railway service, and may lead to abuses of another sort. The crucial difficulty in the management of the railway business is due to the tendency of the traffic to fluctuate. In America, where the railways may gain or lose business in contests with one another, this ebb and flow of traffic is very clearly marked. In Germany, where State ownership prevails, in France where the field has been parceled out, and in England where the mutual arrangements of the railways reduce competition to the lowest possible limits, traffic is not apt to fluctuate violently in consequence of occasional struggles of the railways. Sharp contrasts between lean and fat years are further prevented by the comparative stability of the conditions of production in these countries. While, therefore, regularity of employment is considerably less difficult to introduce in these

countries, the differences between years of industrial activity and of depression, and, above all, seasonal differences, render even here changes in the bulk of the traffic frequent and unavoidable. There are several ways of accommodating the labor force to these sudden increases or shrinkages in railway traffic. The problem may be partially, but, after all, only partially, solved by having inferior workmen qualified for superior positions; for example, by temporarily employing firemen as locomotive engineers and cleaners as firemen, etc.

The railway administration may, moreover, adopt, in the first place, the expensive expedient of keeping enough men employed to meet all the exigencies of the traffic; secondly, it may take on casual hands who will supplement the work of the regular staff; thirdly, it may increase or reduce the staff as the needs grow or diminish, or, finally, it may work the men overtime. The first expedient is seldom used, the second has only a limited application, and the consequence is that regularity of employment usually means on European railways unduly long hours at certain periods.

Excessive hours of labor have always been a source of complaint in railway employment, and the protests have been more or less loud with the greater or less opportunity for expressing the feeling of the employees. In many industries there is an economy in short hours, and in businesses in which the value of the product of eight is greater than that of ten or twelve hours there is no conflict between the wishes of the employers and employed. In the railway service, however, the law that fewer hours mean greater product has but little application. It is usually more economical to employ one ticket seller for fourteen hours than two for seven hours each, the character of the work not admitting of a more intensive and successful application of energy for a shorter period of hours. The same thing is true in many fields of the railway service, and the work is carried on at so many places, and at such distances, that a relief system is a matter of extreme difficulty. It has been the experience of the English railways, for example, that for their own particular interests it pays the company to overwork the men and to pay them higher wages rather than to reduce hours and wages together.

The inhumanly long hours of labor are dangerous both to the railway men and to the traveling public, but it is curious to notice how the interests of the latter class are paramount in causing a reduction of hours. As a matter merely of dollars and cents, it is cheaper to compensate for accidents to employees due to overwork, than it is to reduce the hours. While it would not be fair to say that railway companies or administrations have been continually guided by such narrow considerations, it is quite evident that in most of the countries under consideration, and notably in the United Kingdom and France, attempted regulation of hours has usually followed some notorious accident, and has especially considered those employees upon whom the safety of the general public primarily depends.

The very long hours occasionally prevailing, or that have occasionally prevailed, on railways have been due in part to fluctuations in the amount of work to be done, to the difficulty of establishing relief systems, and to the fact that in the majority of cases the intensity or value of the work does not increase as the working day is shortened. Another factor which operates in the same manner is the difficulty of establishing general rules to regulate hours.

The work of a switchman will be very different according to the number of trains that enter the yard, according to the character of the mechanical appliances at his disposal, etc., and a 6-hour day in one yard may be a greater tax upon the energies of the employee than a 12-hour day in another. The pauses, moreover, which intervene may be restful or not as their length and frequency and the freedom they allow may determine, and it is impossible to fix upon a general rule of what constitutes a reasonable working day.

There are several suggested methods of solving the problem. One is to place the matter in the hands of a permanent board or commission with powers to pass upon each particular case; another is to establish definite maxima, placing limits to the period elapsing between beginning and ending work, establishing a minimum number of hours of rest, and restricting the number of cases in which the rule may be set aside. Any system that may be adopted, however, will still permit a large number of individual abuses.

The length of the working day and the general conditions of railway employment are also disadvantageously affected by the comparative weakness of railway labor organizations. In several countries, such as Prussia or Belgium, it is not permitted to railway employees to participate in any labor union; in other countries, like Austria, the unions are small, unimportant, and too intimately associated with political parties to have much influence, while even in France the railway labor unions have but little real power. In England, the home of trade-unionism, the difficulties in the way of labor organizations among railway men have until recently placed a bar in the way of the attainment of the wishes of the men. The wide dispersion of the men, the special character of much of their work, the great degree of differentiation among the employees, and the innumerable differences in rank render it difficult to establish a general, strong, and permanent organization. It is usually found that the higher classes of employees desire to hold themselves aloof from those less favored, this being especially the case with the locomotive staff. In England and in France these better paid employees usually remain outside of the regular union when they do not actually form another and an antagonistic organization.

The weakness of the unions and the strength and feeling of solidarity among the railway companies or administrations have been largely accountable for the comparative absence of strikes on railways. A local strike, upon a small scale, can usually be put down without much difficulty by an uncompromising company, and a strike upon a large

scale is exceedingly difficult to engineer in the railway business. (*a*) The frightful ravages and the incalculable distress that a great railway strike would cause renders resort to extreme measures exceedingly infrequent. A strike of the duration of the recent engineering strike in England, or even of the Scotch railway strike of 1890, and affecting all the roads leading to London or to Paris, would result in the most frightful disasters, if not to widespread starvation. In no other industry is the public so completely interested in the presence or absence of harmony between employers and employed.

The preeminent importance of a condition of peace between employers and employed in the railway service has been of great influence in molding the attitude of the State, and secondarily of the companies themselves, toward the railway employees. To avert recourse to hostilities, or in other instances to prevent a future renewal of a strike, the State has frequently stepped in to regulate the conditions of railway service. This has usually taken the form of a determination of the hours of labor, or of the regulations looking to the prevention of accidents and to the granting of compensation for them. In more than one case reforms which have been introduced at the instance or primarily in the interest of railway men have been enlarged in scope and made to apply to other forms of labor. That the fear of war has been the best safeguard of peace is also shown in the increased emphasis laid upon arbitration and other forms of peaceable settlement. The extensive and often costly pension systems instituted by the companies may be also interpreted in many cases as an attempt to bind the employee to the company and to win him over, as far as possible, from the temptation to join an aggressive labor union.

In the space at the disposal of the writer it was not possible to treat all of the subjects in detail. The principle of selection adopted has been to consider those conditions most fully which are most characteristic of the country treated, and to discuss only briefly subjects which, though perhaps of intrinsic importance, are not peculiar to or representative of the particular country studied. There are some problems which are common to all places and are inherent in the nature of the railway industry itself. There are others, on the other hand, which are the results of particular conditions in a given country. While all the

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a The success of the Swiss railway strike is an exception, which by its peculiarities corroborates rather than overthrows the general rule. In many respects, the whole Swiss system may be compared to a single railway line in the midst of a series of competing companies. Any through traffic which is lost by the Swiss system will be eagerly taken up by the French or German lines, the international arrangements not preventing a diversion of traffic when one system is temporarily crippled. Moreover where the strike is localized and the whole labor force is organized, and has public opinion back of it, it may, if intelligently directed, bring to terms a single system in a small country. But this coincidence of favorable circumstances does not deprive the railway employees of the general inferiority in the struggle with organized capital.

countries of Europe have not been passed in review in this report, those which have been selected may be considered as fairly representative of the conditions existing in western Europe.

UNITED KINGDOM.

EMPLOYMENT ON BRITISH RAILWAYS.

In 1896 there were 826,620 men employed on 182,776 miles of American railways. In 1895 the railways of the United Kingdom, with a mileage only a little more than 11 per cent (21,174 miles) as large as that of American railways, employed 465,112 men, or 56 per cent as many as were engaged on American railways. In other words, for every man on a given stretch of American railways there will be five men employed for a like distance on British railways. There are two causes to which this difference may be ascribed. In the first place the British railways do a great deal of work that in America is delegated to subsidiary corporations, and many men are employed in the express business or in collecting and delivering goods, or even in the manufacture of railway materials, a portion of whom would not be considered in America as railway employees. The chief cause of the difference, however, is to be found in the character of the British roadbed, rolling stock, and general equipment, and in the intensity of British railway traffic. In the United States we find similar differences corresponding to the variations in the intensity of traffic. Thus while there are 454 men employed per 100 miles of line for the whole of the United States, the proportion amounts to 1,048 per 100 miles in the Middle States, 832 in the New England States, and sinks as low as 248 in the Pacific States. The employment for the whole of the United Kingdom, however, is considerably denser than for any group in the United States, and in fact for any country of the world, in 1895 there being 2,197 men employed per 100 miles of British railways.

Like the capital account of the railways, the number of men employed per mile is rapidly increasing. In 1857 there were 109,660 men employed on 8,942 open miles, or 12.3 per mile; in 1858, 109,329 men on 9,323 miles, or 11.7 per mile; in 1884, 346,426 men on 18,864 miles, or 18.4 per mile; in 1889, 381,626 men on 19,943 miles, or 19.1 per mile; in 1895, 465,112 men on 21,174 miles, or 22 men per mile.

A comparison of the number of men employed in the various grades during the last decade would be more instructive were it not for the manner in which statistics are collected and published in the United Kingdom. Where the group is clear and well defined, as in the case of inspectors, firemen, engine drivers, and mechanics, there is some approach to accuracy and definiteness in the results, but it would be hard to believe that the number of laborers employed fell from 70,405 in 1884 to 28,904 in 1889, and then rose to 45,882 in 1895. The increase in the number of employees belonging to "other classes," which should

diminish with more precise returns, has largely increased during the period from 1884 to 1895, and of a total of 465,112 employees 136,968, or almost 30 per cent, are now grouped together under the heading "other classes." The following table presents the statistical returns for the years 1884, 1889, and 1895:

NUMBER OF RAILWAY EMPLOYEES, 1884, 1889, AND 1895, BY OCCUPATIONS.

Occupations.	1884.	1889.	1895.
Station masters	6,165	6,953	7,410
Brakemen and goods guards	7,407	10,038	11,881
Permanent way men	37,840	54,273	58,781
Gate keepers	1,605	3,070	3,292
Engine drivers	12,874	15,180	19,281
Porters	41,809	38,808	45,696
Shunters	6,261	5,922	7,092
Firemen	12,795	14,804	19,264
Inspectors	3,518	5,226	6,805
Guards, passenger	5,902	5,033	6,357
Pointsmen and signalmen	19,012	21,153	24,381
Laborers	70,405	28,904	45,882
Ticket collectors	2,060	2,410	2,795
Mechanics	55,940	64,802	69,227
Other classes	62,833	109,050	136,968
Total	346,426	*a* 381,626	465,112

a The figures here apparently should be 385,626; those given are, however, according to the official report.

These statistics show the increasing proportion that the railway force bears to the total population. In 1857 less than 0.4 per cent of the population were employed in the operation of railways; by 1875 this proportion had increased to over 0.7 per cent, by 1884 to 0.9 per cent, by 1889 to 1 per cent, and by 1895 to 1.2 per cent. If we estimate the American population at 70,000,000 in 1896, the proportion would be 1.18 per cent for the United States.

HOURS OF LABOR.

While the hours of labor on British railways had repeatedly occasioned considerable complaint, and had more than once been brought to the attention of the Board of Trade, no regulation was attempted by Parliament until the year 1893. Despite the frequency of the petitions, the attitude of the national legislature had been one of steadfast opposition to intervention in any form between the railway companies and their employees. It was held that "the Government could not usefully interfere in regulating wages or hours of labor, or intervene in any way between employers and engine drivers on railways;" that the railway employees "were a most intelligent class" and only worked overtime "for the purpose of getting more money," whereas, finally, if the companies, "by working their men too long, or by any other neglect of precautions necessary to the public safety, cause any injury to life or limb, they are by juries made to pay heavy damages." The position of Parliament, therefore, was that an enlightened self-interest would prevent the railway companies from overworking their employees, where damages might result, but that whatever the danger to public safety, freedom of contract between employer and employee might not be

restrained, and any attempt to regulate the conditions of labor of responsible male adults would be a dangerous departure from a settled and time-honored policy. (*a*)

The agitation for shorter hours on railways, which had been vigorously prosecuted for several years, finally culminated in the great Scottish railway strike of 1890–91. This event brought the grievances of the men to the attention of the public. While the strike was at its height a resolution was introduced in the House of Commons, pointing to the excessive hours as "a source of danger both to the men themselves and to the traveling public," and recommending that power be conferred upon the Board of Trade to issue orders limiting the hours of work and increasing the number employed of certain classes of railway servants. This resolution was subsequently withdrawn and in its stead was substituted a motion appointing a select committee to inquire "whether, and, if so, in what way, the hours worked by railway servants should be restricted by legislation." The evidence presented to the committee thus appointed is elsewhere discussed; its outcome was the recommendation by the committee of the regulation of excessive hours by the National Government, and this recommendation was ultimately incorporated in the Railway Regulation (hours of labor) Act of 1893.

The recommendations of the committee, as set forth in their majority report, did not fully satisfy the expectations of all parties. From several sources, and notably from the General Railway Workers' Union, a demand had arisen for the establishment of a legal maximum working-day for railway employees. The committee, however, deemed this demand unreasonable, since it took into account only the quantity and not the quality, only the duration and not the difficulty, of the work. While it was undoubtedly possible to establish certain maxima beyond which no railway servant might be employed, it was considered that such maxima, unless working in many instances grave injustice to the companies, must necessarily be too high to afford efficient protection in the great majority of cases. It was moreover recognized that legal maxima tend to become normal rates, and it was feared that a leveling up of the hours in places where the work was onerous and exacting might more than counterbalance the leveling down at other places, and the grievous conditions of work be rather aggravated than mitigated. The difficulties in the case of those employees occupying fixed posts of duty (such as signalmen, shunters, plate layers, porters, etc.) were intensified in the case of the running staff (engineers, firemen, conductors, etc.). It is principally these latter classes the length of whose working-day is affected by all the exigencies of the work and susceptible to all variations in the bulk of traffic. An absolutely reliable system of relief is rendered quite impossible by their constant change of

a The position of the railway companies was expressed very definitely by Mr. Findlay before the Select Committee on Railway Servants (hours of labor) in 1891: "It must be that the hours of labor must be regulated according to supply and demand, and if a man does not like the service surely he is at liberty to leave it."

place, and the complexity of working-arrangements is so intricate on a busy railway that a temporary breakdown, or any slight delay, may involve a large number of men all over the line in a severe spell of overwork. Moreover, not only does the work vary in intensity and difficulty, but there occur intervals of greater or lesser duration which it is difficult to class either as rest or labor. The unavoidable interruptions and delays (which are especially frequent in the freight traffic, over which the passenger service takes precedence) tend to make a maximum day impossible, and unduly long hours may often be tolerated by the men in order that they may return to their homes each night instead of being billeted abroad. In the face of these difficulties the committee did not attempt to lay down any hard and fast lines for the determination of the hours of labor, but preferred to preserve the responsibility of the companies, while reserving to the Board of Trade, and in final instance to the Railway and Canal Commissioners, the right of determining whether or not the companies had satisfactorily complied with the provisions of the act.

The law, as finally passed on July 27, 1893, was substantially in harmony with the recommendations of the committee. The act excepts from its operation railway servants "wholly employed in clerical work or in * * * workshops," since it was held that there was nothing peculiar about the condition of employees, not engaged in working the traffic, except "that they were employed by corporations to which special privileges have been granted by Parliament." Under suitable penalties the law prescribes that—

1. If it is represented to the Board of Trade, by or on behalf of the servants, or any class of the servants, of a railway company, that the hours of labor * * * of any particular servants engaged in working the traffic on any part of the lines of the company are excessive, or do not provide sufficient intervals of uninterrupted rest between the periods of duty, or sufficient relief in respect of Sunday duty, the Board of Trade shall inquire into the representation.

2. If it appears to the Board of Trade * * * that there is, in the case of any railway company, reasonable ground of complaint with respect to any of the matters aforesaid, the Board of Trade shall order the company to submit to them, within a period specified by the board, such a schedule of time for the duty of the servants, or of any class of the servants, of the company, as will in the opinion of the board bring the actual hours of work within reasonable limits, regard being had to all the circumstances of the traffic and to the nature of the work.

3. If a railway company fail to comply with any such order, or to enforce the provisions of any schedule submitted to the board in pursuance of any such order and approved by the board, the board may refer the matter to the Railway and Canal Commission, and thereupon the Railway and Canal Commission shall have jurisdiction in the matter, and the board may appear in support of the reference, and the commissioners may make an order requiring the railway company to submit to the commission, within a period specified by the commission, such a schedule as will, in the opinion of the commission, bring the actual hours of work within reasonable limits.

This excerpt from the law shows that while the act of 1893 is not an intemperate or an uncompromising measure, it leaves much to the discretion of the bodies to whom its administration is confided; but during the five years of its operation it has been constantly administered in the same spirit of moderation and compromise in which it was conceived. From its inception up to the present time the act has not once served as a basis of judicial proceedings. The Board of Trade, acting through their railway secretary, have merely limited themselves to advising the companies and to publishing temperate statements of their negotiations, and in no single instance have they availed themselves of their legal right to appeal to the Railway and Canal Commission. The primary purpose of the law has been realized without recourse to legal proceedings. In all cases where in the opinion of the Board of Trade the hours of labor were a menace to the public safety their representations have been invariably met with a prompt and satisfactory consideration, and the companies have submitted revised schedules removing the original grievance. The absence of friction has been largely due to the small number of frivolous or unreasonable complaints and to the conciliatory attitude of the companies, which has been repeatedly and gratefully acknowledged by the board. It is also admitted that much of the improvement has been voluntarily effected by the railways themselves (though partially under the pressure of public opinion), and in killing the inhumanly long hours the board claim to have done little more than administer the *coup de grâce.*

Where the hours have not threatened the safety of the traveling public, but have merely constituted an unreasonable tax upon the energies of the employees, the success of the measure, though great, has not been immediate or complete. The companies appear to entertain in part a certain resentment at the interference of their employees, or their agents, in the conditions of labor, and not infrequently refuse in the first instance to consider any alteration whatsoever. Correspondence between the companies and the board, though occasionally protracted, usually results in some sort of a compromise, which is the more acceptable to the friends of shorter hours, since the reductions imposed by the Board of Trade are frequently accompanied by a more general scaling down of hours in similar cases. A reduction of hours granted to employees on one section of a road, in consequence of an appeal made by them or in their behalf to the Board of Trade, can not judiciously be withheld from similarly placed employees in a neighboring section, whose loyalty to the company has prevented them from making complaint. A diminution in the number of hours in certain signal cabins, for instance, will usually produce within a short period similar reductions in other cabins, where the work is as hard or harder, and the influence of the law is consequently more potent and far-reaching than its direct results might indicate.

In carrying the law into execution the board have consistently adhered to the policy of judging the cases with regard "to all the circumstances

of the traffic and to the nature of the work." They have refrained from enunciating general rules, from applying to one railway the circumstances of another, or from instituting any comparisons whatsoever between the conditions of labor obtaining on different railways, or even on different parts of the same line. While the law results in increasing uniformity, no attempt is made to compel the hours of labor to conform rigorously to those obtaining on a neighboring railway.

The Board of Trade have also refused to allow their decisions to be influenced by issues foreign to the act. They have not allowed the law to be used as a lever to increase the demand for labor or to compel an increase of wages. While by an amendment to the bill as first proposed, the option of the board was removed and the investigation of all complaints made obligatory, the Board of Trade have steadfastly and uniformly refused to press complaints which were not *bona fide*, and which were not in the sole interest of a reduction of hours. The board could not and did not attempt to prevent a railway company from offering its employees an increase of wages in lieu of a reduction of hours, and such agreements have not been unknown. No instances are known, however, in which a decrease in wages has followed a reduction of hours, although this result was held out as a possibility by the railways. It is generally conceded that a scaling down of wages, in consequence of a reduction of hours imposed by the Board of Trade, would in all probability be strongly resented by public opinion, to which British railways, and notably the larger and richer corporations, are amenable. The booked times (or schedules of hours) once reduced are rarely, if ever, increased again; but the companies frequently allow the actual time to exceed unreasonably the booked time. This is a not unusual source of complaint, but the board demand as a rule a closer adherence to booked time, and do not admit that a special stress of work, that may by any possibility be anticipated and provided for, constitutes a justification for such a discrepancy.

The complaints are usually made for groups of men, and not by or in behalf of individual workmen, so that the number directly and indirectly affected by the act can not be determined. The table following shows the number of complaints acted upon during each of the four years ending July 27, from 1894 to 1897:

COMPLAINTS ACTED UPON DURING FOUR YEARS, 1894 TO 1897.

Occupations.	Complaints acted upon during the year ending July 27—				Total.
	1894.	1895.	1896.	1897.	
Signalmen	24	60	33	31	148
Engineers and firemen	14	22	12	2	50
Station employees	14	30	20	20	84
Guards and brakemen	7	25	14	10	56
Shunters	6	12	9	10	37
Gate keepers	4	2	3	1	10
Wagon examiners	1	2	5	1	9
Plate layers	1	.....	1	.....	2
Other classes	1	3	.....	1	5
Total	72	156	97	76	401

From this table it appears that the number of complaints is small and is on the decrease. During the first year considerable misapprehension existed as to the proper method of making representations to the board, and a large number of complaints were thrown out and disregarded. The number of complaints consequently increased in 1895, but have decreased in 1896 and 1897, while during the same period an analogous decline has been observed in the seriousness of the offenses complained of. While the report for 1898 will show an increase in the number of cases acted upon, the majority of these complaints will come from a single line, the North British, and be due to local causes, so that it is probable that the total number of complaints will remain small and greatly inferior to the extravagant estimates of half a dozen years ago.

This decline in the number of complaints clearly points to an improvement in the conditions of work, as there is manifested on the part of the railway employees no dissatisfaction with the operation of the law or distrust of the Board of Trade. The names of those making complaint are always kept secret. "Although the board are not disposed to think that railway companies generally would offer any active opposition to those servants who make representations to the department, the men have been held to be entitled to an assurance that the communications addressed to the board will be treated as confidential, unless the complainant's authority is obtained to disclose the origin of the representation." The board ask for a schedule of hours of all employees on a certain section, and no clue is thus given to the identity of the complainant. If the hours of any employees are deemed too long, the board requests the company to submit a revised schedule embodying their recommendations, and reserve their right to grant or withhold their sanction to the schedule as revised. A month is usually granted provisionally for the revision to be carried out, but an extension of this time is frequently required to allow the company to adapt itself to the altered conditions, and this extension is generally requested and allowed.

The attitude of railway employees toward the law is, upon the whole, friendly. The more aggressive and militant elements, as represented in the Amalgamated Society of Railway Servants, feel that their grievances have been, or are in the act of being, largely removed, but they advocate the appointment of railway employees as assistant inspectors, and the verification by the Board of Trade of the time schedules submitted by the companies. The attitude of the closer and more conservative Associated Society of Locomotive Engineers and Firemen, however, is less friendly. This body refused to give evidence before the commission, and since 1893 have made little use of the law, if they have not consciously boycotted it. The number of engineers and firemen taking advantage of the law is small and decreasing, and is now not nearly so great as that of the conductors and brakemen, or of the station staff.

The greatest number of complaints has come from the signalmen, who, before the passage of the law, were probably overworked more systematically than any other class of railway employees.

The conditions in the United Kingdom before the passage of the railway servants hours of labor act had been very grievous, and had for a few years been made the subject of much attack. The general interest in the question was intensified by the great railway strike in Scotland, which had brought to light many abuses in this direction, and had directed public attention to them. The newspapers at this period were full of instances of unreasonably long hours, and of work continued to the verge, and beyond it, of physical exhaustion, and the Parliamentary investigations of 1891 and 1892 disclosed a mass of evidence bringing out the same facts. It is difficult to gauge the full weight of this evidence, and no extracts from it would leave upon the mind the impression that is obtained from the whole report. The number of flagrant instances disclosed of unduly long hours is too large for embodiment in this paper. A few cases, however, may be cited. On the Caledonian Railway weeks of 90 hours 5 minutes, of 88 hours 50 minutes, and of 91 hours 35 minutes were worked by freight engineers and conductors before the strike, and equally long hours were worked after its termination. On the North British Railway, just before the strike, engineers and firemen were on duty for periods of 22, 25, 19, and 23 hours, and for weeks of 96 and 97 hours. After the strike engineers and firemen worked as much as 360 hours and 50 minutes in 21 days, 181 hours and 40 minutes in 10 days, etc., while one engineer and a fireman during five consecutive periods were on duty for 102 hours and 15 minutes, the longest period of uninterrupted work being 33 hours and 45 minutes and the shortest 13 hours. As late as March, 1891, weeks of 92½, 96, 98, and 99 hours were worked on freight trains, and daily averages of 15½ and 16 hours on passenger trains are instanced. One engineer's average for the year 1889 was 13 hours 40 minutes, 275 out of 299 days being 13 hours or over, and another engineer worked on an average nearly 18 hours per day in February and 15½ hours in March, 1891. Daily averages of 14 to 14½ hours were obtained from the time books of sixty conductors in the Pontypool road district of the Great Western Railway. The booked times of engineers on the Welsh sections of the Midland Railway were as high as 14¾ and 15 hours all the year round, whereas in the Wigan district of the Lancashire and Yorkshire Railway the work of some forty freight conductors shows 448 instances of spells of over 15 hours during the forty days ending February 20, 1891. On the Great Northern Railway a passenger conductor worked in one week in April, 1891, 14 hours 46 minutes, 14 hours 37 minutes, 15 hours 1 minute, 14 hours 49 minutes, 14 hours 25 minutes, 14 hours 28 minutes, in all 88 hours 6 minutes, and it was further claimed that this was in no way an excep-

tion, but was "one of the regular terms that has been worked for years," in addition to occasional Sunday duty.

The general prevalence of unduly and unreasonably long hours was rendered patent by evidence, of which the preceding is simply an example, and the railways made no serious attempt to challenge the evidence presented. It must be admitted, however, that there were great differences among the railways in the treatment of their employees, and that the abuses were not always attributed to the same cause, but were in many cases due to exceptional and unavoidable circumstances. The North British and Caledonian railways complained that the most flagrant instances of excessive hours cited against them dated either immediately before or immediately after the strike of 1890–91, and were directly attributable to this disturbance and to the spirit of unrest and the neglect of duty by which it was preceded. In the cases of the Cambrian, the Waterford and Central Ireland, and the Midland and Southwestern Junction railways, the investigating committee found that the instances of overwork by the men were due to mismanagement, while the unduly long hours on the North British and on the Lancashire and Yorkshire railways were attributed to a congestion of traffic which ought to have been foreseen and provided for by increased accommodations and additional staff.

Although it is impossible to give any very accurate idea of the extent to which the hours of railway employees are diminished, the fact that such a diminution has taken place and is still taking place is not to be gainsaid. There are of course instances in which the working-day was lengthened, but these are few and comparatively insignificant. If we take a single year, 1895 for instance, we find that there were cases of an increase in the number of hours, affecting in all 96 men, while the cases in which the number of hours were diminished affected 5,007 men. Thus a downward tendency in the length of the working-day is observed, since there are but 2 men whose day is lengthened to every 100 men whose day is shortened.

It was found impossible, in the course of this investigation, to obtain either from the railway companies, the Board of Trade, or from the organizations of railway employees reliable statistics of the hours of labor. The material is possessed by the railway companies and is being obtained to a certain degree by the larger railway labor unions (at least by the Amalgamated Society of Railway Servants), but it has never been collated and analyzed. The nearest approach to any estimate may be obtained from following the reported declines from year to year. The average working-day which has been diminished during the year generally represents a greater number of hours than is usual; it has been reduced because it is unreasonable. The average working-day will probably be somewhere between the day which was considered unreasonable and the day to which it was reduced, but this suggestion

is offered with due reserve, especially as we are working only with averages. The following table shows what was considered an unreasonable and what a reasonable number of hours of labor per week in various grades of employment of the railway service:

HOURS OF LABOR PER WEEK IN VARIOUS RAILWAY OCCUPATIONS.

Occupations.	Number of men affected.	Average hours of labor per week—	
		Before reduction.	After reduction.
Signalmen	797	70	58
Conductors	260	74½	60½
Porters	103	78¾	70¼
Shunters	147	71¾	59¾
Track men	3,105	56¾	54¾
Other classes	595	65	59¼
Total	5,007	61¾	56½

In attempting to give the proper value to this conclusion it must not be forgotten that the small percentage (not much over 1 per cent of all employees) militates against the universality of the conclusion. Thus it happens in this special instance that the whole of the 797 signalmen were employed on lines in Yorkshire and Lancashire. The estimate, faulty as it is, is the nearest approach that can be made to obtaining an idea of the real length of the working-day on British railways.

The extent to which the reduction of hours of labor and the change in the attitude of public opinion have taken place may be noted by comparing the foregoing results with those found in the Board of Trade report for 1890, for the operations of fifteen of the larger railway lines of the United Kingdom during the month of March of that year:

INSTANCES OF EXCESSIVE HOURS OF DUTY IN VARIOUS RAILWAY OCCUPATIONS.

Occupations.	Number of men affected.	Instances of men being employed for more than—			Instances of men being on duty 15 hours and resuming work after less than 8 hours' rest.
		12 hours per day.	15 hours per day.	18 hours per day.	
Conductors	3,931	417	156	12	40
Brakemen	8,692	6,146	5,523	862	498
Engineers and firemen	27,741	22,743	29,273	3,971	1,313
Signalmen	16,029	3,542	940	79	672

While the preceding table refers not to average hours but to individual instances of excessive hours, the figures are large enough to indicate the considerable decline that has followed the strike of 1890–91 and the law of 1893.

SUNDAY LABOR.

It is difficult to give a general idea of the practice of British railways in regard to Sunday labor, as the extent to which it is performed and the manner of remuneration varies on different lines. It may be stated,

however, that the amount of Sunday labor performed on British railways is less than is common on the Continent, such as on French, Prussian, or Austrian railways.

The only official figures upon this subject were obtained by the Board of Trade for one English and one Scotch railway, but the names of the companies could not be given. It was found that in the passenger department of the English railway about two-fifths of the porters, ticket collectors and examiners, detectives and watchmen, gatemen and crossing keepers, and passenger-train shunters were employed on Sundays. The usual method adopted, however, is not to employ the same men repeatedly on Sunday, but to alternate, and where a member of the staff works a Sunday out of turn he is paid overtime at the usual rates.

In some of the other occupations in this department the amount of Sunday labor is less. About one-quarter of the conductors on passenger trains and of the carriage cleaners and washers are employed, and about one-sixth of the number takers and freight-train shunters employed in this department worked during Sundays. The greatest amount of Sunday work in this department is naturally done by the signalmen. About 55 per cent of all signalmen were found to be employed on Sundays. These men were paid overtime for Sunday at the same rate that they were paid during the week, but the average time on duty on Sunday was greater for the 8 and 10 hour boxes than for the 12-hour boxes, being about 11½ for the first and 9½ hours for the second.

In the freight department the amount of Sunday work is much slighter. About one-third of the engine shunters and three-fifths of the police are employed, the work of the police averaging about 11½ hours, and being paid as overtime. About a fifth of the carmen and draymen were employed; that is, they appeared for a few hours in the stables to feed the horses. No extra pay is made for this service, but where the men are put to cart traffic of perishable goods, they are paid overtime at the rate of 8 hours a day. In the locomotive, carriage, and wagon department, a considerable part of the auxiliary work is performed on Sundays, a large proportion of the engine cleaners, brake attendants, carriage and wagon attendants, greasers, carriage cleaners, and lamp men being employed. On the other hand the female employees, and such persons as painters, polishers, plumbers, carriage trimmers, machinists in iron and wood, turners, trade apprentices in the shops, draftsmen, and timekeepers are practically exempt from all Sunday labor, while of the ordinary laborers in this department, less than one in ten is employed on Sundays. Of the locomotive engineers and firemen about two-ninths are employed, and are paid overtime at the rate of 8 hours per day.

As a rule the remuneration for Sunday work on British railways is not considered as part of the week's wages, and the general tendency is to consider Sunday work as overtime. This has the effect of making the rate of wages reported by the companies somewhat lower than the

actual amount received by the men, since the employee may count very definitely upon a fixed addition to his weekly wages from his regularly recurring Sunday labor.

WAGES.

For the United Kingdom, the most comprehensive details in regard to the wages of employees were furnished to the Board of Trade by the railways for the years 1886 and 1891. These statistics, which for the former year were compiled very late, were finally published in 1893 in the General Report on the Wages of the Manual Labor Classes in the United Kingdom. Returns were made from all the companies in the Kingdom, but the Board of Trade tabulated only those of 32 companies, which, however, were the largest in the country, representing 90 per cent of the railway capital and over 90 per cent of the total number of employees in the British Isles.

In taking the returns the attempt was made to ascertain, not the amount earned per year, but the weekly rate of wages, and instead of following the method of taking the average wages, the Board of Trade divided the rates of wages into a series of classes, and obtained the number of employees falling within each class. The investigation did not cover the clerks and the salaried officers, but it comprehended all other employees, including those employed in the working of canals, railway hotels, etc., and there are many classes of employees of British railways engaged in the working of canals, hotels, etc., that would scarcely appear in an American report. In calculating the percentages hotel servants who receive part of their wages in board and lodging are not included.

The table following for 1886 and 1891 gives for England and Wales, Scotland and Ireland, the number and per cent of men employed at various weekly rates of wages by the principal railway companies:

NUMBER AND PER CENT OF MEN EMPLOYED BY PRINCIPAL RAILWAY COMPANIES, BY WEEKLY RATES OF WAGES, 1886 AND 1891.

[The rates of wages given in this table are exclusive of bonuses and allowances to signalmen, enginemen, firemen, etc., and extra earnings on piecework. No account is taken of the lodgings, which the companies often lease to the men, especially in the country districts, at reduced rents.]

1886.

Weekly rates of wages.	England and Wales.		Scotland.		Ireland.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 10s. ($2.43)	54	.....	14	0.1	202	1.6	270	0.1
10s. to 15s. ($2.43 to $3.65)	1,251	0.6	712	2.4	6,624	51.4	8,587	3.3
15s. to 20s. ($3.65 to $4.87)	90,251	41.2	14,941	49.8	3,270	25.4	108,462	41.4
20s. to 25s. ($4.87 to $6.08)	65,366	29.9	7,348	24.5	1,036	8.0	73,750	28.2
25s. to 30s. ($6.08 to $7.30)	33,774	15.4	4,628	15.4	645	5.0	39,047	14.9
30s. to 35s. ($7.30 to $8.52)	12,994	5.9	1,153	3.8	642	5.0	14,789	5.6
35s. to 40s. ($8.52 to $9.73)	6,214	2.8	819	2.7	187	1.5	7,220	2.8
40s. to 45s. ($9.73 to $10.95)	7,482	3.4	259	.9	207	1.6	7,948	3.0
45s. to 50s. ($10.95 to $12.17)	609	.3	56	.2	45	.3	710	.3
50s. to 60s. ($12.17 to $14.60)	659	.3	43	.1	13	.1	715	.3
60s. ($14.60) or over	316	.2	30	.1	15	.1	361	.1
Total	218,970	100.0	30,003	100.0	12,886	100.0	261,859	100.0

NUMBER AND PER CENT OF MEN EMPLOYED BY PRINCIPAL RAILWAY COMPANIES, BY WEEKLY RATES OF WAGES, 1886 AND 1891—Concluded.

1891.

Weekly rates of wages.	England and Wales.		Scotland.		Ireland.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 10s. ($2.43)	73	.....	14	.....	123	0.9	210	0.1
10s. to 15s. ($2.43 to $3.65)	1,202	0.5	509	1.5	6,475	46.0	8,186	2.6
15s. to 20s. ($3.65 to $4.87)	104,483	39.2	15,451	45.6	4,028	28.6	123,962	39.4
20s. to 25s. ($4.87 to $6.08)	79,854	30.0	9,208	27.2	1,410	10.0	90,472	28.8
25s. to 30s. ($6.08 to $7.30)	42,954	16.1	5,626	16.6	727	5.2	49,307	15.7
30s. to 35s. ($7.30 to $8.52)	18,492	6.9	1,522	4.5	718	5.1	20,732	6.6
35s. to 40s. ($8.52 to $9.73)	7,609	2.9	1,096	3.2	248	1.8	8,953	2.8
40s. to 45s. ($9.73 to $10.95)	9,427	3.5	291	.9	256	1.8	9,974	3.2
45s. to 50s. ($10.95 to $12.17)	1,294	.5	58	.2	45	.3	1,397	.4
50s. to 60s. ($12.17 to $14.60)	820	.3	48	.2	23	.2	891	.3
60s. ($14.60) or over	388	.1	34	.1	14	.1	436	.1
Total	266,596	100.0	33,857	100.0	14,067	100.0	314,520	100.0

From this table we see that not one in a hundred men employed in manual labor on English railways receives as much as $11 a week, and in Scotland and Ireland the proportion is about 1 in 200. The proportion who received 35s. ($8.52) or over in 1891 was 7.3 per cent in England and Wales, 4.6 per cent in Scotland, and 4.2 per cent in Ireland. Only about three-tenths of the men on English, one-fourth on Scotch, and one-seventh on Irish railways earned more than 25s. ($6.08) a week. The bulk of the adult males on English railways earned from 15s. to 25s. ($3.65 to $6.08), there being 69.2 per cent of the employees in this class in England and Wales and 72.8 per cent in Scotland. The Irish wages ranged still lower, about three-fourths, or 74.6 per cent, of all men on Irish railways earning between 10s. and 20s. ($2.43 and $4.87), of which by far the greater percentage approximate the lower scales, earning less than 15s. ($3.65). While 1 out of every 200 adult male employees on English and 1 out of 66 on Scotch roads earn less than 15s. ($3.65) a week, not far from half the Irish employees (46.9 per cent) receive less than this sum.

These wages, however, are higher than those paid in 1886. In 1891 4 per cent of the total men employed, as shown in the table, received 40s. ($9.73) or over per week as against 3.7 per cent in 1886; 13.4 per cent received 30s. ($7.30) or over in 1891 as against 12.1 per cent in 1886; and 57.9 per cent received 20s. ($4.87) or over in 1891 as against 55.2 per cent in 1886.

Of the total employees 87 per cent were men. Of the remaining 13 per cent, by far the greater proportion were lads and boys, the female employees comprising only 0.5 per cent. The wages of the boys and women were considerably lower than those of the men.

The following table shows the number and per cent of lads and boys employed at various weekly rates in 1886 and in 1891:

NUMBER AND PER CENT OF LADS AND BOYS EMPLOYED BY PRINCIPAL RAILWAY COMPANIES, BY WEEKLY RATES OF WAGES, 1886 AND 1891.

1886.

Weekly rates of wages.	England and Wales.		Scotland.		Ireland.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 10s. ($2.43)	15,233	45.9	1,320	46.1	708	60.9	17,261	46.4
10s. to 15s. ($2.43 to $3.65)	16,412	49.4	1,355	47.4	454	39.0	18,221	48.9
15s. ($3.65) or over	1,550	4.7	187	6.5	1	.1	1,738	4.7
Total	33,195	100.0	2,862	100.0	1,163	100.0	37,220	100.0

1891.

Under 10s. ($2.43)	19,937	48.5	1,541	51.0	728	58.9	22,206	48.9
10s. to 15s. ($2.43 to $3.65)	19,639	47.7	1,247	41.2	505	40.9	21,391	47.1
15s. ($3.65) or over	1,567	3.8	235	7.8	3	.2	1,805	4.0
Total	41,143	100.0	3,023	100.0	1,236	100.0	45,402	100.0

It will be seen that 95.3 per cent of the total lads and boys employed in 1886 received less than 15s. ($3.65) a week, while in Ireland only 1 lad received as much as $3.65. In 1891 only 4 per cent earned as much as 15s. ($3.65), while more than one-half of the rest (48.9 per cent) earned less than 10s. ($2.43).

The wages of the women employed in 1891 were slightly above those of the boys, there being a larger proportion of women with a wage of 15s. ($3.65) or over, but a smaller proportion with a wage of 10s. ($2.43) or over than in the case of the boys. The wages of the women also appear to have fallen somewhat from 1886 to 1891. The following table shows the number and percentage of women employed at various wage rates in 1886 and in 1891:

NUMBER AND PER CENT OF WOMEN EMPLOYED BY PRINCIPAL RAILWAY COMPANIES, BY WEEKLY RATES OF WAGES, 1886 AND 1891.

1886.

Weekly rates of wages.	England and Wales.		Scotland.		Ireland.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 10s. ($2.43)	763	49.5	76	56.7	39	66.1	878	50.6
10s. to 15s. ($2.43 to $3.65)	645	41.8	33	24.6	20	33.9	698	40.2
15s. ($3.65) or over	135	8.7	25	18.7	.....	.....	160	9.2
Total	1,543	100.0	134	100.0	59	100.0	1,736	100.0

1891.

Under 10s. ($2.43)	861	49.3	85	55.9	50	74.6	996	50.7
10s. to 15s. ($2.43 to $3.65)	738	42.3	42	27.6	17	25.4	797	40.6
15s. ($3.65) or over	146	8.4	25	16.5	.....	.....	171	8.7
Total	1,745	100.0	152	100.0	67	100.0	1,964	100.0

The Board of Trade has attempted to arrive at a general average of the annual wages paid to men by assuming the average wages of each group to be the mean of that group. Thus, for the group 10s. to 15s. ($2.43 to $3.65), it would be one-half the sum of these figures, or 12½s. ($3.04). This mean for each group was multiplied by the number of men in the group and by 52 to get the total annual wages paid, and the total annual wages for all the groups was divided by the total number of men to find the estimated average annual wages. The group over 60s. ($14.60) was taken at 70s. ($17.03), and the group under 10s. ($2.43) at 7½s. ($1.82). The results obtained are shown in the following table:

AVERAGE ANNUAL WAGES OF MEN EMPLOYED BY PRINCIPAL RAILWAY COMPANIES, ESTIMATED FROM MEAN WEEKLY RATES, 1886 AND 1891.

Civil divisions.	1886.	1891.	Excess of 1891 over 1886.	Per cent of excess of 1891 over 1886.
England and Wales	$292.23	$296.37	$4.14	1.4
Scotland	273.74	280.07	6.33	2.3
Ireland	219.24	226.54	7.30	3.3
United Kingdom	286.39	291.50	5.11	1.8

Of course the figures in the table just given are merely approximate, since the average wages of employees receiving from 20s. to 25s. ($4.87 to $6.08), for instance, may not be 22½s. ($5.47), and despite the continuity of employment on British railways, it is not safe to calculate 52 weeks to the year. The report states that "these rates show the relative amount of pay in England, Scotland, and Ireland, but they do not show the real increase, as between 1886 and 1891, because in a large group, such as 15s. to 20s. ($3.65 to $4.87), there has probably been a shifting of the true mean upward, which can not be accurately allowed for, although the fact is known."

Using the method employed above in getting the average wages for men, the average annual wages of all employees of the principal railways of the United Kingdom in 1891 were calculated to be £55 11s. ($270.33), or 7 per cent less than the average for men which, as shown in the table, were £59 18s. ($291.50). The average wage for women and children worked out by this method was £26 13s. ($129.69), the wages of the women and children being thus 44.5 per cent of those of the men. The inclusion of the women and children would bring down the wages to a greater extent in England than in Scotland and Ireland, these classes forming 13.9 per cent of the employees in England and only about 8.5 per cent in Scotland and in Ireland. If we include the women and children, the annual rate of wages would amount to £56 3s. ($273.25) in England and Wales, £54 18s. ($267.17) in Scotland, and £44 14s. ($217.53) in Ireland. (*a*)

a In calculating the averages here given the group 15s. ($3.65) or over, for women and children, was taken at 17½s. ($4.26).

If instead of multiplying the average rate of wages by the number of weeks in the year (a method which is considerably less faulty in the United Kingdom than in the United States, owing to the very great regularity of employment there), we attempt to arrive at the average sum actually received per employee, we meet with new difficulties.

In the following table the total actual wages for all employees (regular and casual) paid during the year 1891 have been divided by the number for the first week of October, 1891, of regular employees alone, as it was said to be impracticable to exclude the wages paid to casual laborers. The figures thus obtained are brought into comparison with the estimates made from mean weekly rates.

AVERAGE ANNUAL WAGES OF ALL REGULAR EMPLOYEES OF PRINCIPAL RAILWAY COMPANIES, ESTIMATED FROM TOTAL YEARLY EARNINGS, COMPARED WITH ESTIMATES FROM MEAN WEEKLY RATES, 1891.

Civil divisions.	Average annual wages estimated from—		Excess of estimate from actual earnings over that from mean rates.	
	Actual yearly earnings.	Mean weekly rates.	Amount.	Per cent.
England and Wales	$304.16	$273.25	$30.91	11.3
Scotland	283.96	267.17	16.79	6.3
Ireland	239.43	217.53	21.90	10.1
United Kingdom	299.29	270.33	28.96	10.7

If it had been practicable to exclude casual labor with absolute exactness, the result would have been a much closer approximation to the actual earnings of the employees than by simply dividing the earnings of two groups (casual and regular) by the number in the group of regular employees. In the following table the number of employees (including casuals) in the week when fewest were employed and the number in the week when most were employed have been taken, and it has been assumed that the mean of these numbers represents the average number employed during the whole year:

HIGHEST, LOWEST, AND AVERAGE NUMBER OF EMPLOYEES, INCLUDING CASUALS, OF PRINCIPAL RAILWAY COMPANIES, 1891.

Civil divisions.	Maximum week.	Minimum week.	Average.
England and Wales	326,299	307,588	316,944
Scotland	37,597	36,931	37,264
Ireland	16,632	15,543	16,087
United Kingdom	380,528	360,062	370,295

The average number employed, including casuals, is 2.3 per cent greater than the number of regular employees. The following table gives a comparison between the average number of employees, including casuals, and the number of regular employees, excluding casuals.

AVERAGE EMPLOYEES OF PRINCIPAL RAILWAY COMPANIES, INCLUDING CASUALS, AND REGULAR EMPLOYEES, EXCLUDING CASUALS, COMPARED, 1891.

Civil divisions.	Average total employees, including casuals.	Regular employees, excluding casuals. (a)	Per cent of casuals of average total.
England and Wales	316,944	309,484	2.35
Scotland	37,264	37,032	.62
Ireland	16,087	15,370	4.46
United Kingdom	370,295	361,886	2.27

a Figures in this column are for first week in October, 1891.

Assuming equal rates of wages to casuals and regulars, estimates of the average wages of all employees can be made by dividing the total yearly earnings by the average number of employees, including casuals. Averages obtained by this method are given in the following table in comparison with the averages based on mean weekly rates:

AVERAGE ANNUAL WAGES OF ALL EMPLOYEES OF PRINCIPAL RAILWAY COMPANIES, ESTIMATED FROM TOTAL YEARLY EARNINGS, COMPARED WITH ESTIMATES FROM MEAN WEEKLY RATES, 1891.

Civil divisions.	Average annual wages estimated from—		Excess of estimate from actual earnings over that from mean rates.	
	Actual yearly earnings.	Mean weekly rates.	Amount.	Per cent.
England and Wales	$297.02	$273.25	$23.77	8.7
Scotland	282.26	267.17	15.09	5.6
Ireland	228.63	217.53	11.10	5.1
United Kingdom	292.57	270.33	22.24	8.2

WAGES ON RAILWAYS AND IN OTHER INDUSTRIES.

Wages on railways vary greatly with the character of the work and with the location of the employees. Taken as a group, however, railway labor may be considered as fairly representative, since the employees are distributed over the whole country, and their numbers bear some relation to the population of the districts served, while the character of employment is so varied that labor of almost every kind, from unskilled to that requiring the highest intelligence, is to be found in the various branches of the service. As far as can be seen from the rather imperfect statistics at hand, the scale of remuneration for the whole group of railway employees is slightly lower than for labor in general in the British Isles. The statistics show that the wages in the building trades, in the mercantile marine, in the Royal Navy (including petty officers and seamen), in domestic service, and in hospitals and infirmaries (including estimated value of food where necessary), range higher than in the railway service, the average wages for men in other employments (excluding, however, agriculture) being about 6 or 7 per

cent higher than those of railway men. The railway service shows a larger proportion of men obtaining the highest weekly wages, 40s. ($9.73) or over, but as from 90 to 91 per cent of the employees in this, as in other employments, receive between 15s. and 35s. ($3.65 and $8.52), the comparative disadvantage of the railway men is to be found here. A disproportionate number of railway men receive between 15s. and 20s. ($3.65 and $4.87) per week, while a comparatively small proportion receive between 20s. and 35s. ($4.87 and $8.52) per week. The following table of distribution into wage classes will bring out the disproportion more clearly:

PER CENT OF RAILWAY AND OF OTHER THAN RAILWAY EMPLOYEES IN VARIOUS WAGE CLASSES, COMPARED.

Weekly rates of wages.	Railway employment, statistics, 1891 (per cent).	Other employment, census summary, 1886 (per cent).	Excess of railway employment (per cent).
Under 10s. ($2.43)	.....	0.1	.....
10s. to 15s. ($2.43 to $3.65)	2.7	2.4	+ 0.3
15s. to 20s. ($3.65 to $4.87)	39.4	21.5	+17.9
20s. to 25s. ($4.87 to $6.08)	28.8	33.6	— 4.8
25s. to 30s. ($6.08 to $7.30)	15.7	24.2	— 8.5
30s. to 35s. ($7.30 to $8.52)	6.6	11.6	— 5.0
35s. to 40s. ($8.52 to $9.73)	2.8	4.2	— 1.4
40s. ($9.73) or over	4.0	2.4	+ 1.6
Total	100.0	100.0	.....
Average wages	$5.60	$6.02	.....

A similar comparison with the wages for 1891 would make the discrepancy between railway wages and wages in other employments still greater.

ADVANTAGES OF RAILWAY EMPLOYMENT.

While the wages of railway employees are low in England, especially as compared with the United States, they have certain advantages which compensate, at least partially, for this disadvantage. In the first place the employment is quite permanent in character and is practically independent of the fluctuations in trade or in railway earnings. There appears also to be a certain social prestige connected with railway work, even in the lower grades, and the resulting popularity of the service accounts for low wages and compensates for them. Moreover, the railway employees receive certain benefits, which, though small as compared with similar provisions made on Continental roads, certainly offset to some degree the low scale of remuneration. Many of the companies grant full pay for a week or more, and half-pay for a longer period, in case of accident or sickness of employees, although this does not apply to all classes, and in cases of permanent sickness or death an added payment may be made to the employee or his heirs.

One of the advantages enjoyed by railroad men is found in the

institution of privilege tickets. Most of the railways grant their employees reduced fares, usually about one-fourth of the regular rates, which enable them to travel not only the lines of the company by which they are employed, but over all other railways as well. The extent of this traveling may be understood when we learn that, in 1896, 441,133 privilege tickets were issued to the employees of the Northeastern Railway Company alone. During the holidays of from three to six days, which are granted by some of the companies without loss of pay, free passes are also given to the employees, or it may be to their families. In the same year, 1896, the Northeastern issued 201,025 free passes for holiday purposes. There are also other privileges, such as that of investing their savings in the companies' banks or of drawing a pension (under certain conditions), that are usually cited by the railways as advantages of the railway employees.

WAGES ACCORDING TO CHARACTER OF WORK.

Generally considered, the wages on British and Irish railways are highest in the departments connected with the running of traffic and the repairing of rolling stock, and lowest in those connected with the maintenance of way. The average yearly wages (computed for 52 weeks) are £56 12s. ($275.44) in the coaching (passenger) department, £56 3s. ($273.25) in the goods (freight) department, £68 1s. ($331.17) in the locomotive, carriage, and wagon department, and only £53 1s. ($258.17) in the engineers' department. The low average in the engineers' department is apparently to be accounted for by the large number of track men with low salaries, there being 63.3 per cent of the employees in this department obtaining 20s. ($4.87) or less a week as compared with 40.3 and 39.7 per cent in the passenger and freight departments, and 29.9 per cent in the locomotive department. A larger proportion of men obtain over 30s. ($7.30) a week, however, in the engineers' than in any other department except the locomotive, carriage, and wagon department. In the passenger department 4 per cent, in the freight department 4.4 per cent, in the engineers' department 6.6 per cent, and in the locomotive, carriage, and wagon department 27.4 per cent of all employees receive a weekly wage of 30s. ($7.30) or more. The large number of men in the locomotive department earning these wages is to be attributed to the skilled character of much of the labor, the mechanics and locomotive engineers receiving as a rule much higher wages than those obtained in the other departments.

If the wages received in the various departments of English railways are analyzed a more definite idea of the wages paid in the various classes may be obtained. In the passenger department the highest wages are paid to the conductors, seven-eighths of whom receive from 20s. to 30s. ($4.87 to $7.30) and about one-tenth over 30s. ($7.30). The signalmen (98.5 per cent) range from 15s. to 30s.

($3.65 to $7.30), 62.7 per cent receiving from 20s. to 25s. ($4.87 to $6.08); but these wages represent a notable advance upon those prevailing in 1886. Of the ticket collectors and examiners about two-thirds receive from 20s. to 25s. ($4.87 to $6.08) and nineteen-twentieths from 15s. to 25s. ($3.65 to $6.08). The wages of the shunters range still lower, but the wages of the porters are the lowest of all, only 1 man in 12 having a salary of over 20s. ($4.87) and only 1 in 300 a salary of over 30s. ($7.30) per week. The wages of the foremen are lower than those of the conductors.

In the freight department the highest wages are paid to the conductors and brakemen, their wages being considerably higher than those of the conductors on the passenger trains. The lower rate of wages for the passenger department appears to be due in part, at least, to the system of tipping, which prevails to a great extent, and which is considered and is apparently offset in fixing the wages. The amount received in the form of gratuities and tips from the public can not be determined with any pretense of accuracy (and depends naturally upon the season and the character of the passenger traffic), but estimates made by competent judges agree in making them bear a considerable proportion to the wages paid by the company. The tips given to employees on some of the southern railways during the holiday season are often more than equivalent to their regular salaries, and it is to this that we may attribute the fact that the wages are lower for the passenger conductors than for the similar but lower grade service in the freight traffic. The wages of the checkers, switchmen, carmen, and draymen are all low, but do not differ very materially from each other, the wages of the checkers ranging somewhat higher than those of the switchmen, and the wages of these higher than those of the carmen and draymen. The lowest wages are to be found here again among the porters, five-eighths of whom receive less than 20s. ($4.87) and twenty-nine thirtieths less than 25s. ($6.08) per week. The wages of this class, however, are considerably greater than those of the porters in the passenger traffic, the prevailing system of tips having a depressing effect upon the remuneration of this latter class.

The wages of the locomotive engineers may be said to fluctuate from 30s. to 60s. ($7.30 to $14.60) per week, with an average wage of about 40s. ($9.73). Of the total number, 61.0 per cent receive between 40s. and 45s. ($9.73 and $10.95), 6.4 per cent more, and 32.6 per cent less than this scale. The wages of the firemen are naturally much lower, 99.0 per cent receiving less than 30s. ($7.30), the lowest sum received by the locomotive engineers. The mechanics in metal and wood receive wages that are comparatively high, over four-fifths of each class earning between 25s. and 40s. ($6.08 and $9.73), but the wages are higher for the workers in metal than for the workers in wood. The wages of machinists and turners are lower than those of either of these classes, about two-thirds receiving less than 25s. ($6.08) per week. Of the general laborers in

this department, about 3 in 10 earn over 20s. ($4.87) and 1 in 22 over 25s. ($6.08) per week.

The gangers, plate layers, and packers in the engineers' department receive almost exactly the same wages as the laborers in the locomotive, wagon, and carriage department, but the wages of the laborers in the engineers' department are still lower, over four-fifths receiving less than 20s. ($4.87) per week. The wages of the carpenters range high, almost three-fourths receiving between 25s. and 35s. ($6.08 and $8.52) per week.

If we compare the wages of the various classes of lads and boys, we find that the engine cleaners are the best and the vanguards the poorest paid. Of the latter, five-sixths receive less than 10s. ($2.43) and the remainder less than 15s. ($3.65) per week.

WAGES TERRITORIALLY CONSIDERED.

Preceding tables have shown that railway, like other wages, are higher in England than in Scotland, and considerably higher in Scotland than in Ireland. This is true especially of the cheaper and lower forms of labor. Thus, while of all signalmen employed only 38.6 per cent receive 20s. ($4.87) or less per week in Scotland, and only 19.8 per cent in England, the proportion in Ireland receiving this low wage is 87.3 per cent. The same is true, though in a less degree, of firemen, the proportion of men receiving 20s. ($4.87) or less per week being 13.6 per cent in England, 36.9 per cent in Scotland, and 57.4 per cent in Ireland. Of the conductors about 1 in 45 or 50 receives 20s. ($4.87) per week or less in England or Scotland, while almost half of all conductors on Irish railways are paid these low wages. It may also be said that while 62 per cent of all conductors in England and 53.8 per cent in Scotland receive 25s. ($6.08) or more per week, only 0.2 per cent, or 1 conductor out of 500, obtains over 25s. ($6.08) per week in Ireland.

The statistics just cited merely show that in districts where the general level of wages is low the remuneration of the simpler forms of railway labor will tend to the same low level. The rates of pay for ordinary labor upon railways tend to approximate the rate of wages prevailing in the same country or in the same district for similar work in other industries, except in so far as privileges and special favors to railway men tend to depress their wages in certain countries. It frequently happens, however, in districts where wages are low and where skilled labor does not abound, that the higher classes of employees must be largely obtained from other districts and that the wages rise in consequence. It may be stated as a general rule that the wages of skilled employees vary less between the more and the less favored industrial communities than do those of the unskilled employees. This is true of the wages of railway employees in the United Kingdom. While the ordinary scale of wages for comparatively unskilled railway labor is considerably lower in Ireland than in Scotland or England, the rate of remuneration for skilled railway employees, such as locomotive

engineers, is not much lower than in England and very much greater than it is in Scotland. While 0.3 per cent of locomotive engineers receive 30s. ($7.30) or less per week in England, the proportion is 8.7 per cent for Ireland and 32.2 per cent for Scotland, while the proportion of locomotive engineers receiving over 40s. ($9.73) per week was 61.8 per cent for England, 8.6 per cent for Scotland, but 48.6 per cent for Ireland. (*a*)

RAILWAY LABOR UNIONS.

The thorough organization of the railway companies of England and the feeling of solidarity that gives them a united front against aggressions on the part of either the public or their own employees have forced the railway men themselves into organizations to support their claims and defend their interests. The history of trade unionism among railway employees has not been very different from that of other labor organizations in the United Kingdom, but it may be remarked that the railway unions are younger and until recently formed a smaller proportion of the total force than was the case in other industries. The earliest of the railway labor unions was founded in 1871. In the building trades twelve of the societies existing in 1896 had been formed in the period 1860 to 1869. The Yorkshire Miners' Union dated from 1858, the Amalgamated Society of Engineers from 1851, and the Iron Founders actually from 1809, or almost a score of years before the railway era. In 1896 all of the railway unions together had a membership of 58,851 out of a total of 465,112 persons engaged in the business of railroad transportation. In other words, 13 per cent, or a little over 1 in 8 men, were organized. If a total of 7,000,000 workingmen—that is, not including women—is accepted for the United Kingdom, it is found that fully 20 per cent are organized; and the percentage is still considerably greater in ship building, mining, the building trades, etc., since the inclusion of agricultural laborers and other unorganized trades reduces the general average. There are to-day (1898), however, about 100,000 railway employees in the unions, or, in other words, about 1 in 5, and from all indications the organizations are destined to grow. This growth in the past has usually occurred during periods of industrial activity, while in periods of depression the membership of the unions has remained constant when it has not actually declined, but the railway unions show on the whole a steadier and more rapid growth than is to be observed in other transport trades.

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a The same tendency is observable in the United States. The scale of unskilled wages ranks considerably lower in the South Atlantic States (Group IV of Interstate Commerce Commission railway map) than in the Middle States (Group II). Thus, the wages per day of ordinary trackmen in 1896 averaged $1.18 in Group II and $0.89 in Group IV, a difference of 32 per cent (in 1895, 43 per cent), while the wages of engineers were nearly identical in the two districts ($3.57, Group II; $3.56, Group IV), and the wages of conductors only 10 per cent inferior in Group IV. (Statistics of Railways in the United States: Ninth Annual Report of the Interstate Commerce Commission.)

Until recently the railway companies steadfastly refused to recognize the unions and adopted toward them a consistently hostile attitude. The companies did not wish to follow the lead of the great mining companies in Durham in recognizing the trade unions, holding that the conditions of the railway service did not justify such action. This policy was carried farthest perhaps by the London and Northwestern Company. "I do not believe," said Sir George Findlay, of that company, in his evidence before the Select Committee of 1891, "that anything like (I say it with all submission) a trades unionism ought to be allowed to grow up in the railway service." He maintained that "the employees of a railway should be marshaled and managed something like an army," with the company's manager as general, and that the recognition of the unions would mean increased laxity of discipline. Personal contact with the managers of English railways convinces one of the survival in slightly modified form of this general attitude, but the logic of events has effected in many quarters a considerable change in the relations between the companies and organizations of their employees. In December, 1896, the London and Northwestern, in order to forestall an anticipated strike upon their lines, discharged a number of employees (almost 80), solely on account of their allegiance to the Amalgamated Society and their expressed willingness to abide by its decisions in case of a proclaimed strike. This blow at the trades union caused a great stir throughout England, and the London and Northwestern was forced by public opinion to capitulate, to reinstate the discharged workmen, and to treat for the time, although in a roundabout and unofficial way, with the leader of the society. The result was to add 41,000 members to the trade union, which was followed in 1897 by another success. This was in the nature of a recognition of the Amalgamated Society by the Northeastern Railway Company and the submission of a number of questions relating to wages and hours of labor to the arbitration of Lord James of Hereford. The result was indirectly a further recognition of the trade unions, inasmuch as the awards to the various grades of employees concerned was in something like direct relation to the proportion in which they were represented in the union.

AMALGAMATED SOCIETY OF RAILWAY SERVANTS.

The chief railway trade union in the United Kingdom is the Amalgamated Society of Railway Servants. This union, which at present numbers over 85,000 members, was established in 1871, and has been registered under the trade-union act of 1871–1876. Since its formation it has passed through a storm and stress period and has experienced many changes. It was inaugurated under, apparently, very favorable auspices, over 17,000 members joining the first year, but this success proved transitory. The great bulk of railway workers were not in sympathy with the trade-union movement. The birth of the society was followed by the grant of a series of concessions on the part of the railway companies and the membership of the newly created society

rapidly diminished. The chief difficulty appeared to be in the fluctuating character of the membership, the entrance fee being so small in comparison to the dues that thousands of members allowed themselves to be dropped from the rolls and then to be reinitiated rather than pay their arrears of dues. Thus while initiation fees were paid for over 30,000 men from 1873 to 1882, the membership during this decade dwindled from 17,247 to 6,321. This decline was partially attributed to the increase in the weekly dues in the early eighties from 3d. to 5d. ($0.06 to $0.10), as at this period the society launched more and more into the policy of benefits. Railway, like other, trade unions have continually oscillated between the policy of existing for trade purposes only, that is, for defensive and offensive purposes, and the opposite policy of granting relief for death, sickness, accidents, and other disabilities not due to trade disputes. The general rule is that the benefit societies are richer and stronger than the pure trade unions, but at the same time more responsible, peaceable, and exclusive. The increase in the dues marked a decided tendency of the Amalgamated Society to become more of a friendly (benefit) society, and when in 1889 it was found feasible to organize unskilled labor, and an attempt was made by John Burns and others to introduce the lower classes of railway workers into the union by a reduction of the scale of dues, the proposal was met with but little enthusiasm by the directors of the Amalgamated Society. The refusal of the Amalgamated Society led to the creation of a separate organization of unskilled employees—the General Railway Workers' Union—but as the former organization subsequently made a direct appeal to these poorer paid classes of workmen by introducing a second, and lower, scale of dues and benefits, the older organization has grown at the expense of its younger rival. From 1882, in fact, the Amalgamated Society has grown with considerable rapidity, increasing from 6,321 members in 1882 to 19,585 in 1889 and to 85,928 in 1897. The year 1897 witnessed a most phenomenal increase from 44,709 to 85,928 members. This was due to the ill-advised attempt (previously mentioned) on the part of the London and Northwestern Railway to attack the union by a somewhat large expulsion from its service of members of the society, an attempt which aroused considerable indignation, and resulted in a great accession in members and a large increase in wealth to the society assailed. Since 1897 the society appears to have maintained its ground, but to have made no considerable progress beyond the great advance of that year.

The Amalgamated Society of Railway Servants is a trade union and a benefit society combined. It attempts to improve the condition and defend the interests of its members, to maintain fair wages and reasonable hours, to promote friendly relations between the companies and their employees, and to settle disputes by arbitration or other lawful means. It also strives to protect the employee against unjust treatment, or to compensate him for it, and to provide legal assistance to all members injured by the fault of the employer. The benefit features of

the organization are also numerous, consisting mainly of a provision for cases of unemployment, sickness, disablement or death by reason of accident, and superannuation. The benefits, however, are chiefly limited to scale A, which has a higher range of dues, and to which no railway man is eligible after he has attained the age of 50 years. The weekly dues are shown in the following statement:

CONTRIBUTIONS PER WEEK FOR BENEFITS, AMALGAMATED SOCIETY OF RAILWAY SERVANTS.

Object for which contributions are made.	Scale A.	Scale B.
Donation, legal assistance, movements, and management	$0.05	$0.05
Superannuation	.02	.....
Protection fund	.02	.01
Orphan fund	.01	.....
Total	.10	.06

The society grants £20 ($97.33) to members incapacitated for their usual employment by old age or infirmity if they are over 60 years of age and have been members 20 years, or if they are 50 years of age and have been members since 1872, or if they have joined between 1872 and 1878 and have been members for 10 consecutive years. A grant of £20 ($97.33) is also made to any member of a year's good standing for permanent disability resulting from an accident in the discharge of his duty (and not due to his drunkenness or gross neglect). If death result, however, within a month the award does not apply, but a grant of £5 ($24.33) is made to his assigns, as in the case of death from natural causes. The society also grants a donation benefit, under conditions which minimize fraud, to all members of six months' good standing who are discharged or suspended for causes other than drunkenness or misconduct, or who have been justified in resigning their employment by an unjust reduction of wages or other causes. The donation is continued for 20 weeks, being 12s. ($2.92) per week in scale A and 10s. ($2.43) in scale B for the first 10 weeks, and 6s. and 5s. ($1.46 and $1.22), respectively, in the two scales during the last 10 weeks. If the discharged workman desires to travel within the Kingdom in order to seek employment, this donation is paid to him daily by the various branches in the form of traveling relief, under regulations which prevent fraud and discourage laziness. The protection fund provides a contribution (in addition to the donation) for a member permanently unemployed, or permanently reduced in the scale of employment, through no misconduct or neglect of duty, but because he was an officer of the Amalgamated Society, or because he did his duty either as an officer or as a member of the society. It further provides a payment to members on strike in cases where, every effort by appeal or memorial and every effort to arbitrate having been exhausted, the strike has been sanctioned by the executive committee of the society. In such cases 12s. ($2.92) a week is paid in scale A and 6s. ($1.46) in scale B, and an extra shilling (24 cents) is paid for each child under 12 years of age; but the donation for unemployment is not paid during

the strike. Where the movement has "not been justified by events," a grant not exceeding £10 ($48.67) may be allowed for emigration.

Provision is also made for the orphans of members of 18 months' good standing in scale A who die as a result of an accident or from natural causes. For the first legitimate child under 13 years of age a weekly allowance of 3s. ($0.73) is made, for the second and third 1s. ($0.24) each, and for the remainder 6d. ($0.12) each, but the maximum amount paid any family of orphans must not exceed 7s. ($1.70). Where the orphans are motherless the allowance may be increased to a sum not to exceed 10s. ($2.43), and the orphans may be purchased into suitable homes. The remarriage of the mother causes the benefit to lapse, but it recommences on her again becoming widowed. The society receives reports on the treatment of the orphans, protects them from neglect, and in the event of desertion by the mother the children are provided for. The benefit of the fund ceases when the mother is found "guilty of immorality," and in all cases payments to orphans are conditional upon there being sufficient money in the orphan fund to meet the claims presented. There is also an optional sick and burial fund, the weekly payments ranging from 3d to 8½d. ($0.06 to $0.17), according to the amount of the benefit and the age of the member.

Any person permanently employed on British or Irish railways, or any extra man continuously employed for a period of one year, is eligible to admission to the Amalgamated Society.

The society publishes annual statements of the money expended for various purposes by the organization, and the following table is a résumé of its expenditures for the years 1872 to 1897:

MEMBERSHIP OF AND EXPENDITURES FOR VARIOUS PURPOSES BY THE AMALGAMATED SOCIETY OF RAILWAY SERVANTS, 1872 TO 1897.

Year.	Members.	Total funds at end of each year.	Paid to members out of employment.	Superannuation and death grants.	Paid for legal assistance.	Paid to orphans of members.	Paid from protection fund.
1872	17,247	$12,502.53	$519.09	.....	.....	.....	*a* $4,890.65
1873	15,830	24,471.30	569.44	$97.33	$729.98	.....	.....
1874	14,254	45,712.25	2,241.57	141.72	812.77	.....	.....
1875	13,018	59,582.32	3,938.90	731.80	1,901.28	*b* $394.19	.....
1876	13,440	78,642.32	2,970.88	1,512.45	2,095.58	*b* 880.11	.....
1877	12,815	91,080.34	3,116.53	3,032.99	2,243.27	*b* 490.75	.....
1878	13,543	108,873.01	4,418.58	5,654.81	2,389.13	*b* 492.51	.....
1879	11,516	117,369.66	6,380.06	9,796.99	2,355.67	*b* 371.56	.....
1880	8,589	126,594.60	3,823.75	9,947.67	894.50	823.66	.....
1881	6,878	119,351.64	2,853.23	23,655.75	3,915.59	2,020.98	235.05
1882	6,321	132,254.32	2,335.49	4,058.22	2,647.70	2,907.23	770.12
1883	8,077	179,730.65	1,801.78	4,884.83	2,401.70	3,273.78	533.06
1884	8,460	208,535.02	2,081.06	6,297.47	1,905.52	3,849.97	793.67
1885	9,052	247,162.58	2,510.00	6,832.93	1,515.51	5,624.62	362.09
1886	9,609	271,106.47	2,685.19	7,029.11	1,843.82	7,139.95	1,334.86
1887	10,830	302,630.34	10,065.32	4,879.90	5,574.68	8,162.78	34,438.74
1888	12,080	358,825.84	3,435.22	7,835.09	1,718.54	9,299.48	4,387.11
1889	19,585	397,902.44	2,918.18	8,858.73	920.50	10,641.80	2,244.29
1890	26,360	477,474.36	4,958.62	9,336.42	5,273.28	11,125.93	32,819.19
1891	29,820	538,159.29	8,576.25	12,506.91	5,246.51	13,978.55	20,399.98
1892	30,228	588,003.68	27,562.27	12,525.58	2,726.23	17,569.32	7,036.29
1893	33,826	597,949.94	24,558.24	14,663.03	3,810.77	18,511.29	48,718.43
1894	40,735	682,962.79	14,363.09	15,925.11	6,168.39	20,719.49	11,158.24
1895	38,119	772,438.13	15,657.07	12,875.79	3,628.71	24,767.02	11,001.45
1896	44,709	870,338.87	13,213.72	13,673.43	4,088.20	25,793.91	12,305.74
1897	85,928	963,190.43	15,177.48	16,262.44	4,527.18	27,326.61	66,394.37
Total	.....	.....	182,731.01	213,016.50	71,335.01	216,165.49	259,823.33

a Specially raised by levy.
b These sums were remitted by the general secretary to the Derby Orphanage, exclusive of remittances by branches.

ASSOCIATED SOCIETY OF LOCOMOTIVE ENGINEERS AND FIREMEN.

The Associated Society of Locomotive Engineers and Firemen is an organization which differs in many respects from the Amalgamated Society of Railway Servants. The engineers and firemen represent a higher paid class of employees, and, as a consequence, are more conservative in their general policy. The Associated Society of Locomotive Engineers and Firemen has a considerably smaller membership, but the number of members is constantly and steadily growing. From the year 1880, in which it was founded, its membership increased with every single year. In 1881 it was 651; in 1886, 1,593; in 1891, 6,200; in 1896, 8,423. The income of the society increased almost as rapidly. In 1881 it was £1,371 ($6,671.97); in 1886, £3,194 ($15,543.60); in 1892, £12,093 ($58,850.58); in 1896, £14,762 ($71,839.27). Of this income less than one-half is swallowed up by expenses, so that the balance is constantly growing.

The following table will show more clearly the numerical and financial strength of this organization:

MEMBERS, INCOME, AND EXPENDITURES, ASSOCIATED SOCIETY OF LOCOMOTIVE ENGINEERS AND FIREMEN, 1892 TO 1896.

Year.	Members.	Income.	Expenditures.	Balance on hand.
1892	6,710	$58,850.58	$30,834.14	$128,903.85
1893	7,015	63,780.35	34,595.95	158,088.25
1894	7,524	66,549.39	29,359.59	195,278.05
1895	7,920	70,958.44	35,501.12	230,735.36
1896	8,423	71,839.27	32,732.08	269,842.56

The organization has by its wealth and exclusiveness tended toward peacefulness, and during the last ten years it may be said to have been extremely conservative and to have become almost exclusively a benefit society. The growth of this feeling is shown in the successive reports of the society. In 1887 the society was worsted in an encounter with the Midland Railway and lost 403 members by it, but it gained during the same period 704 new men, and in 1888 was able to congratulate itself on its progress "notwithstanding the severe strain to which it was subjected in 1887." Many of the men engaged in the strike of 1887 subsequently found new situations or "remunerative employment abroad," and from then on the society grew rapidly, "especially when it is taken into consideration that our ranks are made up from the footplate fraternity only." The strike of 1890 and the "new unionism" which arose during the year 1889 brought out the conservative feelings of the engineers more clearly. "We should like to call the attention of the members to the advisability of preventing as far as possible the recurrence of these unfortunate strikes. In most cases they only embitter the feelings of employers against employed, and we feel that with such a body of men as locomotive engineers and firemen, by using proper means, an honorable understanding may be arrived at without

resorting to such measures." Similar expressions of opinion might be multiplied, but this quotation from the report for 1890 shows the spirit of nonresistance and the refusal to act with other railway employees. It also shows the emphasis laid upon the benefit character of the organization. If we were all full benefit members, the report says, there would be "greater incentive to protect the funds of the society."

The society was averse to the proposed regulation of the hours of labor, and refused to testify before the commission. It desired and still desires shorter hours and higher wages for engineers and firemen, and objects to the "cruel injustice" of arbitrarily fining the men. It also desires a certain guaranteed minimum of work and denounces the alleged blacklisting by the companies. In the event, says the report of 1891, of a man either leaving or being discharged "the company should give such person (if required) a statement of his services without writing across it 'not to be used in the United Kingdom.'" In the main however, the policy should be not "to resort to extreme measures."

The extent to which this organization is now devoted to the granting of benefits may be seen by the small percentage of receipts annually expended, and by the large proportion that the "peaceful" benefits bear to the total expenditure. In 1896 the Amalgamated Society of Railway Servants paid out per member 2s. 4¾d. ($0.58), or about 17 per cent of the total expenditure, for unemployed, traveling, emigration, and dispute benefits and in grants to other trades. The General Railway Workers' Union devoted 7d. ($0.14) per member, or about 9 per cent, to these purposes, and the Associated Society of Locomotive Engineers and Firemen 1s. 2d. ($0.28), or about 7 per cent, to the same purpose. At the same time the A. S. R. S. paid 54 per cent for working and other expenses, the G. R. W. U. 91 per cent, and the A. S. L. E. F. only 34 per cent. For purely friendly benefits, however, such as sick, accident, superannuation, funeral, and other benefits and grants to members, the A. S. R. S. paid 4s. 0¼d. ($0.98) per member, the G. R. W. U. nothing, and the A. S. L. E. F. 9s. 5½d. ($2.30), the per cent of these expenditures of the total being 29 and nothing, respectively, for the former organizations, and 59 for the latter. The accumulated surplus per member of the A. S. L. E. F. amounted to £6 11s. 8d. ($32.04) at the end of 1896.

GENERAL RAILWAY WORKERS' UNION.

The General Railway Workers' Union is the smallest and youngest of the three large railway organizations. It arose in 1889, at the time when the "new unionism" was spreading through England, and it rapidly acquired a large membership. It originated in part as a protest against the Amalgamated Society's policy of keeping out the lower grades of railway employees, and the new organization appealed more exclusively to the poorer paid workmen. After its inception, however, the A. S. R. S. reversed its policy and lowered its dues, and from that

time the Railway Workers' Union lost in membership and importance. In 1892 the membership was 8,300, by 1893 it had fallen to 5,564, by 1894 to 3,814, and by 1895 to 3,794. In 1896 it had risen only to 4,194, or about 50 per cent of its membership in 1892.

The loss of membership was doubtless to be attributed in part to an attempt to launch into politics, which resulted disastrously to the young organization. The railway labor unions, as other labor organizations, have as a rule succeeded in keeping clear of politics, and the ill-advised attempt of certain elements in the Railway Workers' Union resulted in a loss of prestige. The decay of the organization, however, is chiefly to be attributed to the greater attraction of the larger bodies and the more liberal policy adpoted by the Amalgamated Society.

The financial statistics of the Railway Workers' Union show their impotence still more clearly. From 1892 to 1896 their income fell from £3,405 to £1,696 ($16,570.43 to $8,253.58), and as their expenses have been greater than their receipts, they have been forced to live off their surplus. The balance in hand diminished more than 40 per cent during these few years and was in 1896 only £1,028 ($5,002.76), as compared with £55,449 ($269,842.56) of the A. S. L. E. F. and £178,843 ($870,339.46) of the A. S. R. S. Although recourse was had to the surplus, it was necessary to increase the yearly contribution per member by about 24 per cent, and for this there is but little return, as over nine-tenths of this income is devoted to the management of the organization. The impossibility of continuing the union under such conditions is clearly perceived, and proposals have been made on several occasions to merge the union with the Amalgamated Society, without satisfactory arrangements being completed, however. The union has in point of fact accomplished what it originally sought, namely, to force the doors of the older society and to allow the admission of the more poorly paid railway employees.

The policy of the Railway Workers' Union is quite definite, and its attitude is more belligerent and uncompromising than that of the older and larger societies, but it is of relative unimportance.

STRIKES.

The railways of the United Kingdom have, on the whole, suffered very slightly from strikes. Until 1871 there was no railway labor union, and there was also no resort to hostile action on the part of the men in any large section of the Kingdom. The strikes that have since occurred have been few in number, and with one notable exception local in character, most of them resulting disastrously to the men concerned. The Labor Department has within recent years kept account of all strikes, and from these lists it appears that in 1889 there were only 4 railway strikes out of a total of 1,145; in 1890, however, there were 17 out of a total of 1,028; in 1891, 3 out of a total of 893; in 1894, 2 out of a total of 1,061, while for the years 1892, 1893, and 1896 no

strikes of railway employees are recorded. This shows very clearly that in the United Kingdom recourse is seldom had by the railway men to a strike.

By far the most important and in its consequences most far-reaching railway strike in Great Britain was the Scotch strike of 1890–91. While to a certain extent localized, this strike was so intense in its character and so long in duration, that it may be considered the typical struggle between capital and labor on British railways. For this reason, and because it seems to foreshadow to some degree the progress of future strikes on British railways, it is treated at some length here. (*a*)

There seems to be little doubt that the chief cause of the strike was the desire of the men for fewer hours of labor. There had been in 1883 a similar though shorter strike on the Caledonian Railway with the same avowed object, and the conditions do not seem to have improved from that time until 1890. The Scotch railways seem to have attempted to economize locomotive power at the expense of their men, and the result of this policy was seen in the chronic congestion of traffic, the frequent accidents, and the unenviable notoriety for inhumanly long hours that the Scotch companies soon earned. These conditions were intensified and aggravated during the summer of 1890 (especially upon the North British Railway) owing to the immense increase of traffic due to the opening of the Forth Bridge and its connections. The discontent of the men, which had been active for ten years, took shape in a definite demand for a reduction in the hours of labor. These demands were in the direction of asking for a 10-hour maximum day (instead of measuring time by the fortnight), with an advance of 25 per cent in the scale of pay for overtime and of 50 per cent for Sunday labor, and a maximum day of 8 hours for men engaged in busy shunting yards. These demands were advanced by the Amalgamated Society of Railway Servants of Scotland, but the companies concerned refused to recognize the body, insisting upon discussing the grievances in the "usual manner"—that is, with each employee individually. On November 23, 1890, therefore, the executive committee of the organization determined to take the sense of the society upon the propriety of striking, and distributed notices to the men asking their opinion as to the advisability of instituting a general strike on December 24. The result was unfavorable to the project, only 4,173 out of a possible 9,000 having by December 7 advised to proceed. The executive committee were also disposed to be cautious and peaceable, but

a There is quite a body of literature upon the subject, but the best treatment is that of Prof. James Mavor, The Scotch Railway Strike, 1891. The author has been able to obtain considerable additional material from the newspapers, particularly from the contemporary running commentaries in the English and Scotch newspapers (notably the Times and Daily News, of London), and from conversation with John Burns, M. P., and other participants in the strike.

their hand was forced in a meeting at the Glasgow center, where, upon a motion for an immediate strike being suddenly introduced by a "man in the gallery," there was a general stampede, and a vote of 660 to 81 carried the motion. A similar stampede took place in all the other centers but one, and from the 21st to the 25th of the month the number of strikers rapidly grew from 3,000 to about 9,000, and the strike was inaugurated.

The attitude of the general public to the strike was divided. On the one hand there was sympathy with the men and a feeling that they had been overworked and hardly used; on the other, it was felt that they had violated their contracts of service by striking immediately and without due notice. This omission seems to have been partly due to a desire not to burn their bridges behind them, and to put themselves in the position of men who had been absent without leave instead of having definitely severed their connection with the railway companies, and partly to the haste in which the determination was conceived. Although the Times stated (January 12, 1891) that "this has been the most lawless strike of modern times," a temperate analysis of the evidence seems to point to the opposite conclusion. As a whole, the railway men showed that they were capable of self-denial and self-restraint. Many of them handed back their strike money and fought upon their own resources, and, in general, good order was maintained. There was some throwing of stones, and when, early in January, the Caledonian Company tried to evict some of its former employees from its houses, the sheriff was deforced, and the mob, "more mischievous than wicked," (*a*) indulged in some jostling of the police. But the meetings of the men were peaceable, the well-organized system of "picketing" was not productive of violence, and the leaders earnestly warned the men against anything that might be construed as intimidation. During the six weeks from December 21, 1890, until January 31, 1891, the battle was fought with varying success, the Scotch employees being furnished with leaders and money from England. The struggle was waged chiefly over the Caledonian and North British railways, but some of the men on the Glasgow and Southwestern struck and returned, struck again, and tried to return during the six weeks of the struggle. The blocking of traffic and the distress caused throughout the country by this, as by all railway strikes, induced a number of private persons and of municipal and other bodies to offer to mediate between the two contending parties, but most of these attempts proved fiascos. The companies refused to assent to the 10-hours scheme, and refused equally to recognize the union, promising, however, a satisfactory consideration of the men's grievances after they had returned to work. During the struggle the railway men surrendered the idea of recognition, and in the final settlement gave up much more than did the companies. The men were

a The Times.

to return to work, and the discussion of grievances was to take place at a meeting of the directors and of the employees' representative, which was an advance upon the usual method of settlement. The companies also promised to reengage as many of the men as possible, and to abandon the legal prosecutions which they had directed against the leaders of the railway organization.

In this manner ended the greatest railway strike in Great Britain. The direct result was an almost complete victory for the companies. The indirect result, however, was of the greatest benefit to the railway employees and to the great traveling public. Even during the continuance of the strike, as early as the 19th of January, notice of intention was given in the House of Commons of a motion, to be presented on the 23d, to the effect "That in the opinion of this house the excessive hours of labor imposed on railway servants * * * constitute a grave social injustice," and advocating the granting to the Board of Trade, by suitable legislation, the right to force the railway companies to limit the hours of certain classes of their employees and to compel them to make provision for such reasonable increase in their numbers as to obviate the necessity of overtime work. This motion was ultimately adopted in a much milder form, and led to the railway regulation (hours of labor act), which has been considered in another place.

ARBITRATION OF LABOR DISPUTES.

The most hopeful sign within recent years of a lessening of the tension between railway companies and their employees is to be found in the submission last year (1897) to arbitration of a number of points of dispute between the Northeastern Railway Company and the Amalgamated Society of Railway Servants. The claims made by the men were important and far reaching, and the company stated that their admission would cost it about £380,000 ($1,849,270) per annum, but despite the greatness of the interests involved the two parties agreed, with certain exceptions, to submit the matter to arbitration and to abide by the decision of the umpire. The proceedings lasted from May 18 until August 4, the award being delivered on August 9, 1897.

In dismissing the representatives of the two parties, the arbitrator (Lord James of Hereford) said: "I do not know that I have ever been engaged in any arbitration where minds have been devoted more accurately to the matters involved, or where greater prudence has been displayed both in the matter and in the manner in which the claims have been put forward and resisted," and it is impossible to read over the 480 folio pages of evidence (*a*) without admiring the sober and temper-

a The evidence, award, and annexes, which have been printed by McCorquodale & Co., Ltd., London, S. E., in a large volume of 538 pages, furnish a vast amount of general information upon labor conditions on English railways. The work is not on sale, but a number of copies have been distributed by the A. S. R. S.

ate manner in which the complicated questions have been discussed. The comparative success of the arbitration in a case involving so many and so important issues has been taken as a favorable augury for the continued application of this method of settling labor difficulties in the railway service.

One of the chief advantages of an arbitration is that it enables each party to realize the position of its opponent and to make the position of both parties clear to the general public. While neither party expects to obtain all that it claims, an arbitration of this sort shows at least the more legitimate of the aspirations of the railway employees and the attitude of the companies toward these aspirations and toward the railway men themselves.

Concisely stated, the general demands of the men were as follows: Locomotive engineers, firemen, and cleaners were to be guaranteed one week's work or wages, the day's work to constitute 10 hours, overtime to be paid at the rate of time and a quarter (125 per cent of ordinary wages), night duty time and a quarter, and Sunday duty double time; firemen were to have an increase from 3s. 6d. ($0.85) in the first year to 5s. ($1.22) in the seventh year, and were to be paid the same as engine drivers when engaged at their work, while cleaners were to commence at 12s. ($2.92) a week and be raised 1s. ($0.24) a half year until a maximum of 20s. ($4.87) a week was reached; for mineral and freight train conductors, somewhat similar provisions (10 hours a day, Sunday time and a half, night duty time and a quarter), including a general increase of 2s. ($0.49) a week. The demands in regard to other employees varied considerably. Sunday duty was to be paid time and a half for switchmen, signalmen, and passenger-train conductors, and double time for trackmen. Shunters were to work a normal day of 8 hours, signalmen 6 days a week and 10 hours a day, the 12-hour day being abolished. Shunters were also to be paid time and a quarter for overtime and to receive 25s., 29s., 33s., 37s., or 40s. ($6.08, $7.06, $8.03, $9, or $9.73) a week, according to the character of the work.

These demands were considerably in advance of what had existed previous to the arbitration, and the men asked for more than they hoped for or obtained. The company pointed out that the desired changes would involve an additional outlay per year of almost £380,000 ($1,849,270), and that the grievances of the men had been already investigated and partly remedied. The company further stated that wages and general conditions of employment on the Northeastern compared very favorably with those of other English railways or with the standards prevailing in the districts in which the men lived or were recruited. Besides their wages, the men enjoyed a number of advantages (steady occupation, relief for sickness or accident, annual holidays, cheap railway transportation, pensions, etc.), all of which had a pecuniary value. While seniority was considered in fixing the wages, the special aptitude or ability of the employee could not be

disregarded, and considerations of public safety demanded that the present methods of testing the applicants for positions (eyesight test, etc.) should be retained. While the directors of the company realized, however, that they could replace such dissatisfied employees as desired to terminate their connection with the railway—to strike, in other words—the losses attendant upon such action and the annoyance and injury to the traveling public and shippers alike induced them to adopt a conciliatory attitude. The company, therefore, agreed to an arbitration on the subjects of wages and hours (but not on discipline), excepting and rejecting, however, in advance the proposal to make 8 hours the maximum day for the locomotive staff.

The award, dated August 9, 1897, was in the nature of a compromise between the two opposing parties, but leaned more to the side of the employees than to that of the company. The award covered the whole field of the controversy, taking up the proposals in regular succession. In several instances the hours of labor were reduced and wages increased. The wages of the cleaners, while lower than the wages asked for, were considerably raised and the principle of seniority was applied. The award also rendered excessive hours of signalmen impossible and made Sunday labor progressively expensive for the company, according to the number of hours the signalman was employed during the week day. The award was accepted by the company and the employees, and is in the main being carried out.

ACCIDENTS TO RAILWAY EMPLOYEES.

The dangerous character of railway work and the large number of fatal and other accidents constantly recurring in this industry make any legislation that tends to protect the railway employees exceedingly important. With the exception of mining, there is no large industry in the United Kingdom that calls for such great sacrifices of human life from the men employed as does the railway industry. While the attention of the Government was originally directed more to the saving of the lives of the passengers than to that of the employees, the lot of this latter class has during the last few decades been also considered, and legislation has been called for and obtained with the object of reducing the accidents to railway employees to a minimum.

This view of the matter has been largely due to the agitation of the railway employees themselves, and the efforts that have been made for them and by them have undoubtedly been largely crowned with success. The following statistics show the extent to which the accidents to employees have been reduced in number since the year 1874.

NUMBER OF EMPLOYEES KILLED AND INJURED ON BRITISH RAILWAYS, 1874 TO 1895.

[The numbers employed are known accurately only for the years 1874, 1884, 1889, and 1895. The numbers for the years 1875 to 1883 are estimated, while those from 1885 to 1888 and 1890 to 1894 are the same as the numbers given in the years 1884 and 1889, respectively. The number of contractors' servants can not be estimated.]

Year.	Accidents by trains.		Accidents on railways, exclusive of train accidents.		Proportion of accidents to total number employed.		Total number employed.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	
1874	46	271	742	2,544	1 in *a* 320	1 in 89	250,000
1875	21	239	744	3,379	1 in *a* 334	1 in 70	255,000
1876	28	236	645	2,364	1 in 386	1 in 100	260,000
1877	22	154	620	2,009	1 in *a* 414	1 in 123	265,000
1878	15	156	529	1,847	1 in *a* 500	1 in 135	270,000
1879	8	118	444	1,836	1 in 619	1 in 143	280,000
1880	23	118	523	1,962	1 in 531	1 in 139	290,000
1881	19	168	502	2,278	1 in 576	1 in 123	300,000
1882	21	153	532	2,423	1 in 570	1 in 122	315,000
1883	11	87	543	2,373	1 in 596	1 in 134	330,000
1884	23	115	523	2,204	1 in 634	1 in 149	346,426
1885	13	81	438	2,036	1 in 768	1 in *b* 163	346,426
1886	4	81	421	1,929	1 in 815	1 in 172	346,426
1887	8	109	414	1,966	1 in 821	1 in 167	346,426
1888	7	93	389	2,100	1 in *a* 874	1 in *b* 157	346,426
1889	4	117	431	2,652	1 in 877	1 in 138	381,626
1890	12	147	487	2,975	1 in 765	1 in 122	381,626
1891	12	154	537	3,007	1 in 695	1 in 121	381,626
1892	9	92	525	2,823	1 in *a* 714	1 in *b* 130	381,626
1893	10	73	450	2,558	1 in *a* 829	1 in 145	381,626
1894	6	62	473	2,649	1 in *a* 796	1 in *b* 140	381,626
1895	12	88	430	2,566	1 in 1,052	1 in 175	465,112

a The figures for the years 1874, 1875, 1877, 1878, 1888, 1892, 1893, and 1894, apparently should be 317, 333, 413, 496, 875, 715, 830, and 797; those given are, however, according to the official report.

b The figures for the years 1885, 1888, 1892, and 1894, apparently should be 164, 158, 131, and 141; those given are, however, according to the official report.

From this table it is seen that while the number of employees killed or injured has, upon the whole, decreased, the proportion that this number bears to the total number of employees has diminished at a much greater rate. Taking the statistics for the 20 years from 1874 to 1893, the following development in the yearly number killed and injured during four 5-year periods appears:

AVERAGE YEARLY NUMBER OF EMPLOYEES KILLED AND INJURED ON BRITISH RAILWAYS DURING FOUR 5-YEAR PERIODS.

Period.	Average employees killed.	Average employees injured.
1874–78	682	2,640
1879–83	525	2,303
1884–88	448	2,143
1889–93	495	2,920

This is, upon the whole, a very favorable showing. The average number killed was over one-third less in the third than in the first period, and while it increased about one-tenth in the fourth period, the returns are much more favorable in the nineties than in the seventies. This is especially the case when we consider the proportion that the number killed bears to the total number of employees, the risk of being killed having been considerably over twice as great per individual twenty years ago as now. The chance of being injured has decreased

considerably since the first period, although the total number of injured has actually increased. It is possible that the registration of injured persons is more exact now than it was during the first period or that the definition of an injury may have been widened. (*a*)

The statistics of killed and injured are instructive as showing the decline in the number of victims during the last twenty years, but it must be especially noted that no comparison of killed and injured on British railways can be made with those on American, German, or French railways. There is the greatest divergence in the method of calculating the number killed among the various railway administrations of different countries, the maximum period elapsing between the day of the injury and the day of decease varying very considerably in the different countries, and there is very far from being a consensus of opinion upon what constitutes an injury. Despite the decrease, however, in the proportion of persons killed and injured, the employees feel that enough has not been done to diminish the great waste of human life in railway work. The report for 1894 of the general secretary of the Amalgamated Society of Railway Servants, speaking of the accidents of the last two decades, says: "The grim total for twenty years' railway working is 10,755 killed and 50,027 injured, which looks as though peace had not only victories as well as war, but also its terrible tale of slaughter and suffering." How much of this loss might be avoided is difficult to state, but it must be freely admitted that the companies are by no means always disposed to provide reasonable security against the occurrence and recurrence of accidents that are likely to injure railway employees. During the year 1895 the subinspectors of the Board of Trade made 287 suggestions to the railway companies looking to improvements in lighting, covering of wires, alterations in rolling stock, improvements in permanent way and works, and in methods of working the traffic, etc., but of these 287 recommendations only 175, or less than five-eighths, were adopted. The London and Northwestern, which has rather an unfortunate record for killing and maiming employees, and which until the passage of the employers' liability act forced its employees to forego the benefit of the previous act, adopted only one-third (15 out of 45) of the improvements recommended, and the Northeastern and the Taff Vale railways were equally refractory. Some of the companies, such as the Caledonian, the Lancashire and Yorkshire, the Midland, and the Southeastern, were more conciliatory, but in general the companies do not show as much regard for the recommendations as might be reasonably expected. The following table, reproduced from official returns, shows the occupations of the killed and injured for the year 1895.

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a The near future will probably witness a decrease in the number of fatalities and casualties on British railways, owing to the proposed regulations in regard to automatic couplers and continuous brakes.

EMPLOYEES KILLED AND INJURED ON BRITISH RAILWAYS, 1895.

Occupations.	Killed.	Injured.	Occupations.	Killed.	Injured.
Brakemen and goods guards	35	487	Loaders and sheeters	1	22
Capstan men	5	53	Mechanics	18	32
Carmen	3	21	Messengers	1	2
Carriage cleaners	2	19	Number takers	2	16
Carriage or wagon examiners	4	12	Permanent way men	117	136
Checkers	1	13	Pointsmen	.....	11
Chockers, chain boys, and slippers	1	52	Policemen	2	3
Clerks	5	5	Porters	49	398
Engine cleaners	7	65	Shunters	26	332
Engine drivers	22	239	Signal fitters	5	9
Firemen	30	361	Signalmen	6	14
Gatekeepers	5	6	Station masters	4	6
Greasers	2	20	Ticket collectors	.....	5
Guards (passenger)	2	77	Watchmen	1	3
Horse drivers	4	31	Yardmen	3	27
Inspectors	8	16	Miscellaneous	19	59
Laborers	37	73	Contractors' servants	8	18
Lamp men	7	11	Total	442	2,654

EMPLOYERS' LIABILITY FOR ACCIDENTS.

The large number of casualties in the railway service renders the question of the legal responsibility of the company for accidents to employees one of vital importance. In the United Kingdom the liability of the employer has been greatly increased by the law of 1880 and, particularly, by that of 1897 which have amended the common law upon the subject. Under the common law (while, of course, liable for his own negligence) a sharp distinction was made in the liability of the employer for the acts of his employees as they affected other servants in his employment, or, on the other hand, persons not employed by him. He was liable for injuries caused to outside persons by his own servants, even though no negligence on his part was proved, and even though he had expressly forbidden the act causing the injury. Toward his own servants, however, the employer was liable only for his own acts or for those of his partners. He was bound to take reasonable care in maintaining the plant and machinery in safe condition, and in securing the service of employees that were competent to do their work. But it was held that "a master is not liable at common law to his servants for the acts of fellow-servants in the course of their employment," (*a*) the surrender of any such right being tacitly assumed in the contract of employment. "A servant, when he engages to serve a master, undertakes, as between himself and his master, to run all the ordinary risks of the service, including the risk of negligence upon the part of a fellow-servant when he is acting in the discharge of his duty as servant of him who is the common master of both." (*b*) With the growth of large industries this doctrine of common employment, which was first established in

a Macdonell, J., The Law of Master and Servant, p. 302.

b Judgment of Earle, C. J., in Tunney *v.* Midland Railway Co., L. R. I. C. P., p. 290.

England in 1837, affected the great body of workers more nearly, since not only men engaged in the same kind of work, but all persons permanently or temporarily in the service of the same employer for the purposes of the same business, were considered fellow-servants, and the relative rank of the servant inflicting and of the servant receiving the injury did not affect the question of the employer's liability. (*a*)

With the change in industrial conditions and the growth of immense industries, with scores of thousands of persons employed in a great diversity of functions, the distinction made between employees and others appeared to the working classes more and more onerous. The effect was, as the Liberal secretary of state for the home department (Mr. Asquith) pointed out in the House of Commons in 1893: "If a train is run off the line through the ignorance, inattention, or want of skill of the engine driver, there is not a passenger in the train injured by the accident who can not recover full compensation from the company; but the stoker and the guard traveling in the train are excluded from any remedy because they and the engine driver happen to be servants of the same master." (*b*) During the seventies the laboring classes carried on an agitation for the abolition of the doctrine of "common employment," which, after unsuccessful attempts had to pass liability acts in 1876, 1878, and 1879, finally resulted in the employers' liability act of 1880. This act rather amended than abrogated the provisions of the common law, and extended the liability of employers for injuries to their servants to all cases in which the injury was due to the neglect of anyone in superintendence, or of anyone "to whose orders or directions the workman * * * was bound to conform and did conform," or to the act of any fellow-servant done in obedience to the rules, by-laws, or instructions of the employer or his delegate. In the case of railway employees, at the instance of the Amalgamated Society of Railway Servants, there was a special extension of the liability of the employer to all cases in which the injury was occasioned "by reason of the negligence of any person in the service of the employer who has the charge or control of any signal, points, locomotive engine, or train upon a railway."

This act, which also defined the maximum award for accidents to employees and the maximum period that might elapse between the accident and legal action following therefrom, was essentially a compromise and merely provisional. It was to continue in force until 1887, "unless Parliament shall otherwise determine," but long before that

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a The rule of the English common law on this subject before the passage of the employers' liability act of 1880 is succinctly stated as follows by Pollock (Essays in Jurisprudence and Ethics, p. 132): "To the public the master answers, to the extent mentioned, for his undertaking and the whole conduct of it. To the servants employed in it he is answerable only for the conditions of the undertaking, not for its conduct, except in the event of his own personal negligence."

b 4 S., vol. 8, Hansard, 1946.

period the liability of the railway companies was considerably diminished by the legalization of the process of "contracting out."

The agitation for extended insurance of workmen against accidents found expression in Mr. Asquith's bill of 1893, which was pushed through the House of Commons by the Liberal party but was lost in the House of Lords. The bill gave to railway and other employees compensation in all cases of injury not due to their own carelessness, made principal contractors responsible for accidents to persons in the employ of subcontractors, and abolished contracting out by rendering any agreement by which the employee surrendered the benefit of the act (with or without sufficient recompense) null and void. The lengthy debates in the House, however, and the discussions in the press had brought the matter clearly before the public, and the necessity of workmen's compensation, especially for railway workmen and miners, became more and more apparent. The railway men themselves desired and demanded avoidance of accidents rather than compensation for them, believing, with many others, that many accidents could be avoided if enough pressure were put upon the railway companies. As an economist (*a*) has put it, "There can be little doubt that the large number of accidents to railway servants (on an average over forty every day, a quarter of which are connected with moving vehicles) could, as regards shunters, be at once diminished by the universal adoption of such appliances as automatic couplings; and that in particular the almost daily sacrifice of plate layers could be avoided by the rigging up of temporary signals. But to adopt such precautions through the extensive English railway system would be extremely expensive and possibly irksome." The employees maintained, and offered some show of proof for their contention, that accidents were more numerous on railways where contracting out was practiced; but the difference is not really so great, since it is cheaper to pay for accidents than to prevent them. Under the workmen's compensation act of 1897, which was passed August 6, 1897, and went into operation July 1, 1898, contracting out was not absolutely abolished. The registrar of friendly societies is empowered to sanction for a limited period any scheme of compensation, benefit, or insurance not less favorable to the general body of workingmen than the act, but the certificate so granted may be revoked, and may never be granted at all where the scheme contains an obligation to join it as a condition of employment. The law applies to railway employees, and gives them the option of suing either under the present law or to take the same proceedings as were open to them before the passage of this act, and makes the employer liable for all injuries (after the first two weeks of disablement) not caused by the serious and willful misconduct or personal negligence of the employee himself. The proceedings are rendered as simple as possible. Notice

a Webb (Sidney and Beatrice), Industrial Democracy, p. 376.

of accident must be given as soon as practicable, and claim must be made within six months, but no defect or inaccuracy in the notice is considered a bar to the maintenance of proceedings.

The compensation under the act for a fatal accident is an amount equal to the wages of the employee for the last three years (or 156 times his average weekly wages if employed for less than that time) but not less than £150 ($729.98) nor more than £300 ($1,459.95). This is in the case of the workman leaving dependents wholly dependent upon him. Where the dependents are not wholly dependent upon him, the compensation must not be greater and may be fixed by agreement or arbitration, and where there are no dependents at all, reasonable expenses for medical attendance and burial, not exceeding £10 ($48.67), is provided. Where total or partial incapacity for work results from the injury, the weekly payments shall not exceed 50 per cent of his weekly earnings during the last year, nor shall it exceed £1 ($4.87) a week, and in fixing the sum regard shall be had to the difference between what he could have earned before the accident and what he can earn afterwards.

The workmen's compensation act has introduced new features of procedure, with the object of avoiding legal delays and expenses. Particular emphasis is laid upon settlement by agreement, and where this fails the next recourse is to arbitration, either by a committee representative of the company and the employees, or at the option of either, or, if the committee fails to decide within three months, by a single arbiter determined upon by both parties. Where the parties can not agree upon an arbiter, the matter must be submitted to the county court judge of the district, but in order to give all facilities to the employees, no fee is payable in respect of any proceeding prior to the award.

FRANCE.

DENSITY OF EMPLOYMENT.

In the year 1896 there were 251,971 persons employed on French railways, excluding those of Algiers and Tunis. Of these about one-tenth, or 25,626, were women, and 86,658, or over one-third, were workmen employed by the day. The density of employment was 6.84 men per kilometer (11 per mile), a percentage smaller than that of the United Kingdom (22 per mile in 1895), but considerably greater than that of the United States (4.5 per mile in 1896). (*a*)

The number of French railway employees has rapidly and steadily increased. In 1875 the number employed was 167,954; by 1883, the date of the new conventions and the surrender of many of the new State lines, the number had reached 240,972. From this time on, thanks to the economies introduced by the new arrangement, the number sank

a The proportion that the number of railway employees bears to the total population is less in France than in the United Kingdom or the United States. In the latter countries there are 12, in France only 6.5 railway employees per 1,000 inhabitants.

steadily to 223,599 in 1887, and it was not until 1891 that the number employed was again as great as in 1883. From 1887 until 1893 the increase was again rapid, the total number of employees in 1893 being 256,756, but since 1893 the railways have commenced to economize in this as in other respects, and the result has been a diminution of the labor force.

While the labor staff on French railways has increased 45 per cent during the last twenty years, in other words from 174,094 to 251,971, the length of railways has increased to a still greater extent, the growth in mileage from 20,323 kilometers (12,628 miles) in 1876 to 36,846 kilometers (22,895 miles) in 1896 being equivalent to an increase of 81 per cent. The density of employment has therefore decreased. In 1876 there were 8.56 persons employed per kilometer of line (13.8 per mile); in 1886, 7.21 per kilometer (11.6 per mile); and in 1896, 6.84 per kilometer (11.0 per mile), the density of employment being lower in 1896 than in any year during the last two decades. The investigation of 1857 showed that in the year 1853 there were 7.81 employees per kilometer (12.6 per mile), and in 1854, 7.07 per kilometer (11.4 per mile) of railway, or in other words that there were fewer men employed per mile of line in 1896 than there were over forty years ago.

The comparative diminution in the labor force of French railways might be attributed at first glance to the fact that the roads that have been constructed during the last twenty years are in a sense secondary and of minor importance, with a smaller traffic and consequently a smaller demand for labor. It is undoubtedly true that the principal and most lucrative of the railways at present existing in France were constructed before 1876, and that the traffic upon the old roads is more intense than upon the more recently constructed. And while the traffic of both the old and new roads has increased, the roads have been extended more rapidly than the business has grown, and the density of traffic, or the amount of business conducted per mile of line, has fallen off. There were less men needed per mile of French railways in 1886 than in 1876 because there was less work done per mile, the freight ton-mileage having decreased from 415,569 to 303,438 metric tons for every mile of road, and the number of passengers carried over each mile of road decreasing also, though but slightly. Since 1886, however, the railways have used fewer men, not because there was less work to be done, but because the men could do more. The advance in the methods of railway operation has enabled a smaller number of men to work the same amount of traffic. From 1886 to 1896 the number of passengers carried over each mile of the French railways increased from 232,517 to 305,823, an increase of 32 per cent, the number of tons of freight from 303,438 to 362,398, an increase of 19 per cent, while the number of men employed decreased from 7.21 to 6.84 per kilometer (11.6 to 11.0 men per mile), a decrease of about 5 per cent. It is thus clear that the increase in railway traffic and the improvements in railway operation

have rendered possible a considerably better utilization of the labor force upon French railways.

While with increasing perfection of transportation methods it is possible to obtain a greater product from a given labor force, it is equally true that the differences in the density of employment, or number of men engaged per mile of road, are chiefly to be attributed to differences in the density of traffic. This law is confirmed by French experience. The great railways of France employ 7.19 men per kilometer (11.6 men per mile) as compared with 3.07 men per kilometer (4.9 men per mile) on the secondary railways with much feebler traffic, and similar differences may be noted among the great railways themselves, as may be seen from the following table. The figures in the columns showing the number of passengers and tons carried the entire length of each railway were obtained by dividing the total passenger and ton kilometers, respectively, by the total length in kilometers of the railway.

PASSENGERS AND TONS CARRIED THE ENTIRE LENGTH OF EACH OF THE GREAT RAILWAYS OF FRANCE, AND EMPLOYEES PER MILE, 1896.

Railways.	Passengers carried entire length of railway.	Tons carried entire length of railway.	Employees per mile.
Northern	490, 749	711, 597	16. 9
Paris, Lyons and Mediterranean	318, 272	499, 770	12. 2
Eastern	309, 238	369, 606	11. 8
Western	341, 888	203, 747	11. 7
Southern	277, 484	307, 899	10. 1
Paris and Orleans	237, 742	272, 663	7. 9

The increased demands upon the staff caused by a growing traffic are not uniformly felt, however, in all parts of the service. In some branches the number of employees has increased, in others it has remained stationary, and in still others has actually declined. While the total number of employees increased only 9 per cent from 1885 to 1895, the number of locomotive engineers and firemen increased 29.9 per cent, and that of conductors and brakemen 34 per cent. The increase in the number and mileage of trains run has a far greater effect upon the number of men in the running staff than upon that of the men employed in the administrative bureaus. The number of men in the administrative department depends more upon the number of companies than upon the work done. Thus the great companies employed in this department 0.08 person per kilometer of line (0.13 per mile) in 1896, the small secondary companies 0.28 person per kilometer (0.45 per mile). The great companies employed 1.11 per cent of their whole staff in the central administration, the secondary companies 9.06 per cent, while the two-mile Enghien-Montmorency Railway, to take an extreme case, employed 15, or 42.86 per cent, of its total staff of 35 persons in the central administration.

Another fact brought out by French experience is that the greater the density of employment the smaller is the proportion of men devoted to the maintenance of way and structures.

The great companies devoted 28.10 per cent, the small companies 35.21 per cent of their staff to this department in 1896. The following comparison will show this relation more clearly:

EMPLOYEES PER MILE AND PER CENT EMPLOYED IN MAINTENANCE OF WAY AND STRUCTURES, FOR SELECTED RAILWAYS, BY GROUPS, 1896.

Railways.	Employees per mile.	Per cent employed in maintenance of way and structures.
Circular Railway of Paris	22.4	19.82
Northern	16.9	25.08
Average	*a* 19.7	*a* 22.45
Paris, Lyons and Mediterranean	12.2	25.06
Western	11.7	30.08
Eastern	11.8	27.18
Average	*a* 11.9	*a* 27.44
Southern	10.1	34.42
Paris and Orleans	7.9	33.07
State railways	6.8	34.06
Average	*a* 8.3	*a* 33.85

a The arithmetical mean and not the true average for the group.

The small influence that increase of traffic has upon the number of men employed in the maintenance of way and structures is also shown by the fact that while from 1886 to 1896 the staff engaged in movement and traffic increased 15 per cent and those engaged in traction and material 17.7 per cent, the number of men employed in the maintenance of way and structures increased only 2.8 per cent. The following table shows this trend of employment from 1876 to 1896:

PER CENT OF PERSONS EMPLOYED IN VARIOUS DEPARTMENTS OF FRENCH RAILWAYS, 1876 TO 1896.

Year.	Per cent of all persons employed in the—			
	Central administration.	Movement and traffic.	Traction and material.	Way and structures.
1876	1.21	39.90	25.57	33.32
1881	1.18	40.90	25.74	32.18
1886	1.25	41.75	25.93	31.07
1891	1.56	41.90	26.71	29.83
1896	1.27	42.95	27.30	28.48

The facts concerning the employment of women on French railways are presented in another portion of this report.

HOURS OF LABOR.

In the regulation of the hours of labor upon French as upon English railways, the main consideration emphasized was the safety of the traveling public. This is clearly seen from the arguments adduced by the supporters of a reduction of the working time, both in and out of the legislative chambers, as well as by the classes of employees which receive the benefit of such reductions. The employees whose hours of labor have been made the subject of governmental inquiry are precisely those upon whom the safety of the public chiefly depends, namely, the switchmen, enginemen, station masters, and, in some cases, the signal men. It is also an easily verified fact that a change in the regulation governing the hours of labor usually follows and has in the past followed closely a notorious accident, so that each new ministry has had an opportunity of trying its hand at regulation.

Up to the present time there have been no laws passed by the French Parliament upon the regulation of the hours of labor in the railway service, the regulation being hitherto effected by means of ministerial decrees. Thus the ministerial circular of May 3, 1864, fixed the maximum working day for switchmen at twelve hours, even in cases where there is no interval between the day and night service. In the case of the enginemen the regulation was more difficult, and it was only after a series of tentative efforts that a method of regulation was arrived at that improved the conditions of the employees without injuring too seriously the interests of the companies. The regulation of the hours of labor of employees at small stations was a still more delicate affair, and in this latter case it was found advisable simply to establish general principles rather than to lay down definite and absolute rules.

The hours of labor of enginemen and stokers were regulated by the ministerial circulars of April 24, 1891, April 25, 1892, and May 4, 1894. The successive changes, however, were by no means radical, but were intended to be merely modifications in detail of former regulations. The earlier circulars were rather tentative, and were found to be too inelastic, and, in certain cases, imposed sacrifices upon the companies which were incommensurate with the benefits derived from them. It had been found inconvenient to limit the hours of labor to 10 per day, or, on the contrary, to allow an average working day of 12 hours, and in the final regulation in 1894, a compromise was effected between these two methods which obviated the disadvantages of both.

The ministerial circular of 1894 had a double object in view, viz, the limitation of the working day of enginemen and of firemen to a reasonable maximum, and the increase, as far as possible, of the number of cases in which the employees could be allowed to take their rest at home. Accordingly, the average working day was fixed at 10 hours, with at least 10 hours of uninterrupted rest, so that in a period of 10 consecutive days of work, counting from midnight to midnight, there

should be not more than 100 hours of actual work, and not less than 100 hours of rest, in sufficiently long periods to be considered uninterrupted. For any one day, the actual hours of labor might exceed 10 hours of actual work, but in no case might it exceed 12 hours, and in every instance it must both be preceded and followed by periods of rest, which were fixed at a minimum of 10 hours when the employee was at home and at 7 hours when he was lodged elsewhere. It is not permissible to have more than two consecutive periods of uninterrupted rest of a duration of less than 10 hours, and the combined duration of any two consecutive periods of uninterrupted rest must be at least 17 hours.

According to the circular, the enginemen and firemen are considered actually at work as long as they are on the engine, or are not allowed to go away, and as long as they are employed at any sort of work whatsoever either in the stations or in the shops. When the employees are held in reserve, only such time may be considered as rest which they are allowed to pass in their dormitories or the refectories of the stations and workshops, or in some other place of repose. Even in the case of special trains, no deviation from the rules above laid down are permitted, unless in such special instance it is fully justified by the necessities of the service. If through the necessities of the service, or in consequence of unforeseen or accidental circumstances, the work of enginemen and firemen exceeds the prescribed limits, the companies must render an account of such excess, but the enginemen and firemen may not invoke a prolongation of the length of the working day. The company must on the 10th day of each month make a report of excess time to the chief of control of exploitation and traction, who prescribes alterations in the service which will cause the excessive labor to disappear without delay. The supervising engineers frequently verify the statements of the companies and report every three months.

The regulation of the hours of labor in stations where there are a number of persons employed is not very difficult, since by a system of relays it is easy to assure a maximum working day of reasonable length. In France the railways are invited to post in each station employing several persons the hours of labor and of attendance of each employee, so that the supervising officials can easily see that no employee is obliged to work for too long a period. In stations, however, which are provided with signals, but the importance of which does not justify the presence of more than one person, the problem of regulation is more difficult. The small number of trains on such lines may run at such long intervals that the employee may be kept at work for a period of time which may injure his health and risk the safety of the public. On the other hand, the work is not continuous, but is interrupted by a series of intervals of rest, especially where the employee is actually lodged in the station. Still, even in such conditions, a minimum of rest is required to assure the necessary vigilance, and this minimum of rest is estimated

by the minister of public works at 8 hours. If during the day, however, the employee has, besides the time allowed for his meals, an uninterrupted rest of 3 hours, the greater period of rest may be reduced to 7½ hours, while if the supplementary interval is 4 hours in length, the length of the main interval of rest may be reduced to 7 hours. To effect this reform it may be necessary that the service for the earliest morning train or for the latest night train be performed either by an auxiliary employee or by the train crew itself.

The clearest idea of the demands of the railway employees themselves upon the subject of the length of the working day may be obtained from an analysis of the Berteaux bill, which was passed by the chamber of deputies on the 17th of December, 1897, but was thrown out by the senate. The discussions to which this projected measure gave rise, both in the chamber and in the public press, throw light upon the more legitimate wishes of the men and upon the difficulties that beset any attempt at the regulation of the hours of labor of railway employees.

The Berteaux bill (*proposition de loi Berteaux*) required that the average working day for all persons engaged in the train service should not exceed 10 hours a day. For any one day or any series of days this maximum might be exceeded, provided that the work did not average over 10 hours. A maximum average working day of 10 hours and a maximum of 12 hours for any single day had already been proclaimed by the ministerial circulars of April 25, 1892, and of May 4, 1894, but the instructions in these circulars were not followed out. The Berteaux bill further provided that the period of work for enginemen and firemen should be counted from the time when the employee entered until he left the depot, and for the chiefs of trains, conductors, and brakemen from the time of entering to the time of leaving the station. This provision was intended to give to the employee the benefit not only of the period noted in the time-table, but also of the time in which his presence is required before the departure and after the arrival of the train. In order, further, to prevent the employment of any person for an inhumanly long period, by allowing or compelling him to commence the work of one day immediately after the completion of the work of the preceding day, as, for instance, from 2 p. m. to 12 p. m. Monday, and 12.01 to 10 a. m. Tuesday, the bill required that every period of work should be followed by an uninterrupted rest of 10 hours. The bill also provided that any period of repose between two trains should be considered as work unless the interruption was at least 4 hours in length, and likewise required that the period in which the employee was bound to be present and hold himself in readiness should also be considered as work. At present any interruption between two trains, even though it be only an hour in length, is considered as rest, as is also the period when the employee is obliged to be present but is not actually employed. The bill requires the punishment of any chief of service who is guilty

of a contravention of this law, especially in the case of accidents due to the fatigue of the employees, the penalties provided being those of the law of July 15, 1875. The Berteaux bill also takes up the questions of leave of absence and pensions, as may be seen later.

It is practically impossible to obtain accurate information upon the actual hours of labor worked upon French railways. The claim is often advanced by the employees that the maximum hours prescribed in the ministerial decrees are frequently and unnecessarily exceeded, and that the railway companies make no attempt to reduce the working day to within reasonable limits. The journal of the leading railway labor organization frequently brings cases of unusually long hours, but while many of the facts thus cited are undoubtedly true they furnish no sufficient evidence upon which to arrive at the ordinary duration of the working day in the various grades of railway employment. Nor can such data be obtained in any other way. The investigation into the rate of wages recently made was extended to the subject of hours of labor, but the returns of the company, even if free from a desire to paint the conditions better than they are, were too indefinite to allow any clear idea to be obtained of the average length of the day's labor.

WAGES ON FRENCH RAILWAYS.

The material used for the following compilation is to be found in the published results of the investigation undertaken in 1891 and 1893 into the wages and hours of labor of workingmen in French industries, the last volume of which appeared in 1898. Through the courtesy of the French labor bureau, the writer has also been permitted to work over the original formulæ submitted by the companies in order to verify and simplify the results.

The investigation above mentioned included in its survey 138,587 men and 19,037 women employed in the railway service and included in the staff of the six large companies—the Northern, Eastern, Western, Southern, Paris and Orleans, and Paris, Lyons and Mediterranean railways—and those of the State Railway Administration and of four secondary companies. The men were divided into wage classes, and from this the average wage was subsequently calculated. The results show, as might be anticipated, that wages on French railways are lower than those prevailing on English roads. Of 67,314 men employed by the day, hour, or piece, five-ninths, or 55 per cent, received a wage of from 27.6 to 41.5 centimes (5.3 to 8 cents) per hour, while 85 per cent, or about six-sevenths, received between 22.6 and 55 centimes (4.4 and 10.6 cents) per hour. Of the remaining 71,273 men employed by the month, 56 per cent or five-ninths, receive from 86 to 135 francs ($16.60 to $26.06) per month, and 84 per cent, or five-sixths, from 71 to 165 francs ($13.70 to $31.85) per month.

WAGES ON FRENCH AND AMERICAN RAILWAYS.

A better idea of the wages of French railway employees may be obtained by comparing them with the daily wages of American railway employees. In the following table, showing the per cent of French and of American railway employees in various wage classes, the French figures were obtained from an article on the distribution of wages, written by M. Lucien March, of the French bureau of labor, and published in the Journal de la Société de Statistique de Paris for June, 1898. The American figures were obtained from the Fifth Annual Report of the Commissioner of Labor, 1890, page 83.

PER CENT OF FRENCH AND OF AMERICAN RAILWAY EMPLOYEES IN VARIOUS WAGE CLASSES.

[The French figures were obtained from the Journal de la Société de Statistique de Paris for June, 1898, page 196; the American figures from the Fifth Annual Report of the Commissioner of Labor, 1890, page 83.]

French railway employees.				American railway employees.	
Daily wages.	Paid by day, hour, or piece (per cent).	Paid by month (per cent).	Total (per cent).	Daily wages.	Per cent.
1.25 francs ($0.241) or under	0.63	0.02	0.31	Under $0.21	0.29
1.26 to 2.25 francs ($0.243 to $0.434)	1.91	.78	1.33	$0.21 to $0.40	.36
2.26 to 3.25 francs ($0.436 to $0.627)	33.75	21.84	28.44	$0.41 to $0.60	.83
3.26 to 4.25 francs ($0.629 to $0.820)	32.52	33.57	32.40	$0.61 to $0.80	1.49
4.26 to 5.25 francs ($0.822 to $1.013)	14.88	21.24	18.06	$0.81 to $1.00	4.25
5.26 to 6.25 francs ($1.015 to $1.206)	8.99	11.04	10.04	$1.01 to $1.20	21.69
6.26 to 7.25 francs ($1.208 to $1.399)	4.40	3.69	4.02	$1.21 to $1.40	21.59
7.26 to 8.25 francs ($1.401 to $1.592)	1.63	2.28	1.96	$1.41 to $1.60	15.08
8.26 to 9.25 francs ($1.594 to $1.785)	.80	1.52	1.16	$1.61 to $1.80	11.40
9.26 to 10.25 francs ($1.787 to $1.978)	.18	1.12	.66	$1.81 to $2.00	9.22
5.25 francs ($1.013) or under	83.69	77.45	80.54	$1.00 or under	7.22
5.26 to 10.15 francs ($1.015 to $1.978)	16.00	19.65	17.84	$1.01 to $2.00	78.98
10.26 to 15.25 francs ($1.980 to $2.943)	.28	2.62	1.47	$2.01 to $3.00	11.54
15.26 francs ($2.945) or over	.03	.28	.15	$3.01 or over	2.26
Total	100.00	100.00	100.00	Total	100.00

This tabulation does not intend to take into account the whole relative position of the French and American railway employees, since such a comparison must include not the daily wages but the annual earnings, the hours of labor per day, the number of days worked, the cost of living, etc. But the table clearly shows, however, the great preponderance of high wages in American as compared with the French railway service. In neither service were there many men employed at less than 40 cents a day.

The great bulk of French wages, however, are under 5.26 francs ($1.015) a day. Of the total number of men considered over four-fifths, or 80.54 per cent, receive less than this sum, the overwhelming majority being paid from 2.26 to 5.25 francs ($0.436 to $1.013), and over three-fifths of the total number receiving from 2.26 to 4.25 francs ($0.436 to $0.82). These wages, moreover, are higher than that of the group paid by the day, hour, or piece, over two-thirds of these receiving less than

4.26 francs ($0.822) and over five-sixths less than 5.26 francs ($1.015) a day. In America, on the other hand, only 7.22 per cent, or about 1 man in 14, received $1 or less per day.

The majority of American employees received from $1.01 to $1.60 a day, nearly three-fifths of all workmen being in this group and almost four-fifths in the group of those receiving from $1.01 to $2. Among the French employees only 17.84 per cent received from 5.26 to 10.25 francs ($1.015 to $1.978) and only 7.80 per cent received from 6.26 to 10.25 francs ($1.208 to $1.978).

Of American employees 11.54 per cent received from $2.01 to $3, while 1.47 per cent of all railway employees of France, and only 0.28 per cent of those working by the day, hour, or piece received from 10.26 to 15.25 francs ($1.98 to $2.943) per day. Of those obtaining $3.01 a day or over, the proportion was 2.26 per cent in the United States, while in France only 0.15 per cent of all railway employees, and 0.03 per cent of those employed by the day, hour, or piece received 15.26 francs ($2.945) or over.

WAGES ACCORDING TO LOCATION.

The chief cause of the wide range of wages among French railway employees is to be found in the diversity of the work performed and the difference in the aptitude, strength, skill, and intelligence required. If we take any one railway, or any one section or workshop of a railway, the wages will vary considerably. In the Paris workshop of the Paris and Orleans Railway, for instance, the average daily wage of the foremen is 11.70 francs ($2.26); of the chief workmen, 9.10 francs ($1.76); of the ordinary workmen, 6.35 francs ($1.23); of the unskilled laborers, 4.70 francs ($0.91); of the apprentices, 2.75 francs ($0.53); and of the few children employed, 1.85 francs ($0.36) per day, a variation of over 500 per cent; and differences, if less considerable, are to be found in every branch of the service. The influence of location of the shop, however, exerts a great, though not an equally great, influence upon the rate of wages. In the large towns, and especially in Paris, the high cost of living, and, above all, the great cost of rents, force the wages of railway as of other employees to a much higher level than in less populous districts. If we divide France into seven groups, making the department containing Paris the first, we will find that the rate of wages in Paris will vary from about 40 per cent to about 125 per cent higher than in the other departments, and if we group all of France out of Paris together we find that the wages of the daily unskilled laborer is about 70 per cent higher in Paris, and for the workmen in the ordinary trades about 100 per cent higher. Among railway employees the same tendency is observable, high wages prevailing in large cities and low wages in small towns. The average wage paid by the Paris and Orleans company to the employees of their workshops is 6.10 francs ($1.18) in Paris, 5.35 francs ($1.03) in

Tours, 4.65 francs ($0.90) in Orleans, and 4.85 francs ($0.94) in Périgueux; by the State railways, 4.90 francs ($0.95) at Tours, 4.50 francs ($0.87) at Orleans, and 4.60 francs ($0.89) at Saintes; by the Western, 6.15 francs ($1.19) at Paris and 4.95 francs ($0.96) in the departments (France outside of Paris and surroundings); by the Northern, 5.60 francs ($1.08) at La Chapelle, 4.45 francs ($0.86) at Amiens, 4.25 francs ($0.82) at Hellemmes, and 3.55 francs ($0.69) at Tergnier, etc.

The same relation exists between the wages of other employees in various parts of France. To take a characteristic class of unskilled labor, the ordinary track men. On the Paris and Orleans Railway their daily wages average in Paris (Department of the Seine) 4.90 francs ($0.95) per day; in the districts immediately outside Paris (Seine-et-Oise, etc.), 4.20 francs ($0.81), and for the rest of the railway average from 3.05 to 3.75 francs ($0.59 to $0.72), while the average on the State railways, which do not run into the metropolis, is also 3.05 francs ($0.59). On the Western the wages average 3.80 francs ($0.73) for Paris and range from 2.70 to 3.45 francs ($0.52 to $0.67) outside of the city, while on the Eastern they average 5 francs ($0.97) for Paris as against 3.70 francs ($0.71) for the provinces.

WAGES AND PREMIUMS.

Among the railway employees of France, those engaged in the department of traction and material receive on the whole the highest wages. This is especially true of the locomotive engineers and firemen, who may be considered typical of the better class of railway employees, but whose wages are considerably above those of the average. Thus, on the Eastern Railway the engineers receive 7.30 francs ($1.41) a day and the firemen 4.65 ($0.90). This, moreover, is but a part of their true wages, since a fair calculation must include the premiums and gratuities which fall to the lot of these employees more than to others. These premiums and gratuities amount to 3.60 francs ($0.69) per day, or 49 per cent of the money wages, for the engineers on the Eastern, and to 1.85 francs ($0.36), or about 40 per cent, for the firemen, making their true wages 10.90 and 6.50 francs ($2.10 and $1.25), respectively. The same conditions are repeated on other lines. A similar computation for the Northern Railway would make the wages of the engineers on an average less than 6.30 francs ($1.22) without, or 10.20 francs ($1.97) with, gratuities and premiums, a difference of over 60 per cent, and for the firemen a wage of 4.40 francs ($0.85) without, or 6.25 francs ($1.21) with, an increase of over 40 per cent. On the Paris and Orleans the regular engineers earn 7.35 francs ($1.42) a day, the beginners, however, only 5.70 francs ($1.10), while the wages of the whole group are over 7 francs ($1.35); the premiums, however, average about 2.10 francs ($0.41) per day, or about 30 per cent, which is below the average on the other railways. The average premiums for firemen are also considerably smaller on this railway, the average amounting to about 0.75 francs ($0.14) per day, or 15 per cent of the original

wages. On the State railways the premiums and gratuities increase the wages of the regular engineers from 6.75 to 9.45 francs ($1.30 to $1.82), or about 40 per cent; of the beginners, from 5.25 to 7.40 francs ($1.01 to $1.43), or 41 per cent, and of the firemen, from 4.60 to 5.65 francs ($0.89 to $1.09), or 23 per cent. As may be seen from the above data, the premiums are not only absolutely less in the case of the firemen, but bear a smaller proportion to the smaller wages of this group.

PATRONAL INSTITUTIONS.

In France the railway employees obtain a great number of advantages which do not fall to the lot of workmen in other employments. In the first place, they are privileged as to the stability of their employment, their immunity from unemployment, the regularity of their wages, the continuance of the whole or at least of a part of their wages during sickness, and the right of travel either gratuitously or at a greatly reduced price, which not only the railway employees themselves but also their families enjoy. The railway employees in France are also privileged from a military point of view, the supplementary periods of instruction of twenty-eight and of thirteen days falling away in their case. The railways also generally pursue the policy of employing as far as possible, the children of their workmen, and in a number of other ways add to the employees' real income.

Besides the pension funds, already spoken of, the railways maintain a considerable number of institutions, which are intended to promote the welfare of their employees. These institutions differ in the different railways, and a detailed study would show a great diversity in the character and management of the various patronal institutions. For the sake both of brevity and clearness, the treatment of the patronal institutions will be limited to those of one company only. The Paris and Orleans company, which has been perhaps the most energetic of the French companies in studying the welfare of their employees, may be considered as furnishing a type of the best patronal institutions among the French railways.

Besides the pension funds both for commissioned and noncommissioned employees, the company grants life annuities for accidents in cases where the company is not legally responsible, it provides a complete medical service for the whole railway, it distributes gratuitously hygienic drinks during the summer and warm drinks during the winter, and frequently distributes money, food, clothing, or fuel in cases of need, or makes advances to the employees upon their future wages. The company has also establishments at Paris, Orleans, Tours, Périgueux, and Bordeaux, where at a reduced price the employees may obtain food, clothing, bed linen, material for clothing, etc., and there is also provided a dining hall as well as a butcher and a baker shop in the neighborhood of the Paris workshops.

The company has likewise established a night school for the workmen and apprenticeships in the workshops, and a school and a workshop where the female employees, as well as the daughters of the workmen, may learn and exercise a trade or profession. Finally the company subventions the Mutual Aid and Provident Society (*Société de secours mutuels et de prévoyance*), which is an organization founded and administered by the employees with the object of granting a pension under certain conditions.

An idea of the importance of the patronal assistance to the employees may be obtained by considering the financial sacrifices which the company is compelled to make to accomplish its ends. In 1896 the Paris and Orleans company distributed 412,758 francs ($79,662) in the form of gratuities; 69,450 francs ($13,404) for workmen on leaving the service, 1,148,013 francs ($221,567) in the shape of supplementary allowances to workmen with salaries under 3,000 francs ($579), and 793,714 francs ($153,187) as aid in cases of sickness, accidental distress, family burdens, etc., and during the same period advanced 209,928 francs ($40,516) to 1,484 employees upon their salaries. During the year 1896 the company expended 173,574 francs ($33,500) for accidents in which the injured workmen had no legal claims on a superannuation pension, and in which the company was not liable. According to a decision taken by the Council of Administration in 1888, every commissioned employee under 50 years of age in the service of the company less than 20 years may, in the case of total disability arising from accidents in the service of the company, receive a life annuity equal to one-half of his annual salary during the last 6 years of his employment, minus one-fortieth for every year of service under 25 years and minus also one-eightieth for every year under 55 years of age. Thus if an employee in the receipt of 2,000 francs ($386) a year is injured at the age of 40 and after 15 years of service, he would receive one-half of his salary, 1,000 francs ($193) minus ten-fortieths and minus fifteen-eightieths, in other words 562.50 francs ($108.56). In no case, however, may the annuity be less than 400 francs ($77.20). In the case of auxiliary employees, the annuity is invariable, being fixed at 400 francs ($77.20). The pension is also revertible, falling to the widow and to the orphans under 18 years of age at the death of the employee, but for the life annuity of the widow and for the annuity of the children the minimum is 300 francs ($57.90) and not 400 francs ($77.20).

The expenses of the Paris and Orleans company for the medical treatment of their employees, including both the salaries of the attendant physicians and the cost of medicines, etc., amounted in 1896, to 364,210 francs ($70,293). The medical attendance is freely granted to all commissioned employees and to those engaged permanently, and is given in all cases of sickness or injury, except when it is the result of fighting, or is due to the misconduct of the employee or to a chronic malady contracted anterior to the entrance of the employee into the service. Where repair shops are established, as at Paris, Orleans, Tours, and Périgueux,

physicians are attached to the department of material and traction, and attend gratuitously not only the workmen, but also their families. Daily consultations are held at the physicians' headquarters, and where patients are unable to be present the physician makes a house visit, provided they live within a certain circumscribed district. The company has a pharmacy in Paris and has made arrangements with other pharmacies elsewhere. Medicines are furnished gratuitously to employees with a salary not exceeding 2,100 francs ($405.30) a year. During the sickness the wages of the employees continue, in whole or in part, according to circumstances.

For hygienic drinks the company expended 168,067 francs ($32,437) in 1896. The hygienic drinks provided in summer are slightly alcoholic, consisting of 1 part of "tafia gentiane" to 30 parts of water.

Cooperative stores for the benefit of the employees have been established in the workshops at Paris, Orléans, Tours, Périgueux, and Bordeaux. Any employee may obtain fuel or articles of food or clothing here for the exclusive use of himself and family. The prices range from 12 to 30 per cent below the average, and the sales in 1896 amounted to over 5,500,000 francs ($1,061,500). No profit is made, and only the general charges of rent, wages, etc., are added to the cost of wholesale purchase. Almost all the articles of clothing sold are made by the wives, widows, or daughters of the employees, 436 having been thus employed in 1896.

In the refectory of the company established at Paris the employee can obtain at a price lower than that obtaining in the workmen's restaurants a repast consisting of bouillon, soup, boiled beef, various meats, vegetables, eggs, cheese, confitures, wines, etc. The price of a portion never exceeds 3 cents, or of a whole meal, rarely, including one-fourth liter of wine (0.26 quart) 53 centimes (10 cents). The price of wine is 52 centimes per liter (9.5 cents per quart) including the octroi, or duty for importation into Paris, of 18⅞ centimes per liter (3.4 cents per quart). However great the quantity of food consumed, no person is ever given more than a half liter (0.53 quart) of wine per repast. The workmen may bring a part or the whole of their repast to the refectory, or may, on the contrary, simply purchase their food there and consume it elsewhere. The food delivered in the refectory in 1896 represented a value of 141,245 francs ($27,260), and the sales in the baker and butcher shops represented about 278,000 francs ($53,654).

The evening courses for the artisans and employees in the Paris workshops are for the most part elementary, the instruction being limited to reading, grammar, arithmetic, geometry, and drawing. There is also a more technical course on the manufacture and use of the articles employed in railway workshops. The courses continue from the beginning of October until the end of June, the instructors consisting of employees of the companies who have had the necessary scholastic training. There are about 120 pupils enrolled.

The girls' school, for the daughters of employees, receives female children from the age of 3 years. There are 233 children in the infants' class from 3 to 6 years of age, and 302 in the six higher classes, the instruction consisting of sewing, reading, writing, and arithmetic. At the age of 13 the children may, at the request of their parents, be admitted to the "ouvroir," or workshop for girls, so long as there are places to be disposed of. The apprenticeship in the ironing of linen and in the making of artificial flowers and of dresses and underwear for women is gratuitous, and at its close the apprentices are permanently employed at a fixed salary. There is no dull season and no unemployment.

The cost of the establishment for the benefit of the employees of the companies, which has been examined in some detail for a single company, does not form a large proportion of the total expenditure.

The principal cost is for pensions, as may be seen from the following statement, showing the expenses incurred by the Paris and Orleans company in favor of its employees in the year 1896:

Gratuities and grants to various employees (not including premiums to enginemen and firemen)	$301,273
Aid to employees (sickness, family burdens, etc.)	153,242
Hygienic drinks	32,424
Schools and workshops for children of employees, teaching courses for apprentices	9,650
Medical service and medicines	70,252
Pensions to commissioned employees	993,757
Pensions to workmen employed by the day	87,043
Accident pensions	33,582
Grants to pensioned employees	13,317
Grant to the Mutual Aid and Provident Society	25,669
Total	1,720,209

This sum represents a grant of 270 francs ($52.11) per employee, or about 17 per cent of their salary. For the company it represents almost one-tenth of their total expenses and more than one-fourth of the dividend distributed to the shareholders.

PENSION AND RELIEF FUNDS.

The French railways attempt to secure to their employees not only a fixed position, but also a pension upon the completion of the term of service. The idea is to furnish the employee, after old age or incapacity overtakes him, with a large percentage of his salary, in order that he may reasonably count upon an assured income in his old age. The pension rules are so arranged that it is to the advantage of the employee to work as long as he can, although at the same time the pensions are sufficiently large to furnish an incentive to the employee. The pension funds are upon a large scale, the effective balance of the fund amounting, on December 31, 1896, to 124,326,873 francs ($23,995,086) for the

Paris, Lyons and Mediterranean Railway, 72,389,713 francs ($13,971,215) for the Eastern, 57,639,604 francs ($11,124,444) for the Southern, 55,878,360 francs ($10,784,523) for the Western, 24,313,373 francs ($4,692,481) for the Northern, and 14,946,604 francs ($2,884,695) for the State Railway. In other words, there are 349,494,527 francs ($67,452,444) in the treasuries of these six railways that are destined for the pensioning of employees.

The pension systems of the companies differ not only in details of management, but in the extent to which the employees are enabled to make use of them. In 1896 there participated in the pension system on the Northern Railway 22,914 men (not including 7,544 new participants introduced since May 1, 1896); on the Eastern, 20,277; on the Western, 28,802; on the Paris, Lyons and Mediterranean, 38,246; on the Southern, 15,293, and on the State Railway, 6,454. If we take the figures from the reports for 1895 and include all who obtain benefit from the pensions, whether permanently employed or not, we find that the percentage of men participating in the pension funds is 93 per cent on the Paris and Orleans, 84 per per cent on the Paris, Lyons and Mediterranean, 73 per cent on the Southern, 69 per cent on the Western, 61 per cent on the Northern, 57 per cent on the Eastern, and 55 per cent on the State Railway.

The proportion of the men pensioned to the members in the funds varies with the age of the fund and the liberality of its provisions. On the Eastern Railway 6,893 men, or 34 per cent of the men belonging to the fund, were, on December 31, 1895, in receipt of pensions. On the Paris, Lyons and Mediterranean the proportion was 28 per cent for the regular employees and but 3 per cent for the unclassed employees; on the Southern, 25 per cent; on the Western, 22 per cent. On the Northern actually 39 per cent were in receipt of pensions, while on the State Railway the proportion was only 2½ per cent. The minimum age for receiving a pension is 55 years on the Eastern, State, Southern, and Paris, Lyons and Mediterranean railways. On the Northern it is 50 years; on the Western, 55 years for the train staff and 60 years for all others, while the Paris and Orleans, which has a special system, to be later discussed, allows a pension at 50 years, but supplements it at 55 years of age. The minimum term of service is usually 25 years (Eastern, Paris, Lyons and Mediterranean, State, and Paris and Orleans railways); but the Southern reserves the right to pension any employee of 55 years of age who has contributed to the fund for 15 years. The minimum term of service on the Northern is 20 years in the active and 25 years in the sedentary branches of the service. On the Western the age is at least 25 for the train crews and 30 years for all the other employees.

The amount of the pensions as fixed by the statutes of the funds is as follows for the different companies: The Eastern pays one-sixtieth (1.67 per cent) of the average annual salary for the last six years, for

each year of service. Thus, if a man has been employed from his twentieth up to his sixtieth year, and has averaged 2,000 francs ($386) for the last six years, he will receive a yearly pension of 40 (number of years of service) multiplied by 2,000 francs ($386) and divided by 60; in other words, 1,333.33 francs ($257.33). The Paris, Lyons and Mediterranean pays its commissioned employees one-fiftieth of the average annual salary for each year of service, so that a man employed from his twentieth to his sixtieth year and averaging 2,000 francs ($386) for the last six years would receive a pension of 1,600 francs ($308.80). The Paris, Lyons and Mediterranean also provides (as do several other railroads) that where the average salary during the last six years has been smaller than the average during the whole term of service the latter base shall be adopted instead of the former. The State railway pays one-half of the employee's salary plus a supplement of one-fiftieth for every year of service exceeding twenty-five. In a case similar to the one above mentioned the employee would receive one-half of 2,000 francs ($386) plus fifteen-fiftieths of 2,000 francs ($386), or in all a pension of 1,600 francs ($308.80). This is equivalent to 2 per cent of salary for the whole term of service. The Southern Railway has the same regulations as the State railways, but the Northern Railway is far less generous, paying to their commissioned employees only one-eightieth of the average salary for each year of service. The Western pays to those fulfilling the conditions of age and service one-half their average salary and one-sixtieth for every year exceeding minimum period of service (25 years for trainmen and 30 years for others). These provisions are less generous than those of the other companies (except the Northern), and the Western has a lower scale for men not fulfilling the age required.

The companies fix a minimum and maximum limit beyond which no pensions are paid. The minimum is usually small, amounting to 600 francs ($115.80) on the Eastern, 500 francs ($96.50) on the Western, and 100 francs ($19.30) per year on the Northern. The maximum is variously estimated, amounting, for example, to 9,000 francs ($1,737) per year on the Eastern Railway.

On the Eastern Railway, on the death of the pensioned employee, one-half of his pension goes to his wife or to his orphans until they are 18 years of age. In order to prevent pension frauds, the Paris, Lyons and Mediterranean makes this conditional upon the marriage having taken place five years before the granting of the pension. The other companies have similar regulations permitting the reversion of the pension, or a portion of it, to the widows and orphans, on some of them the provision being made that the sum shall be divided equally among the children concerned.

There are frequent provisions in the statutes and regulations governing the various pension funds of the companies for cases of permanent premature disability, accidents, and dismissal from service. The

Eastern grants the pension after 15 years of service if the employee is rendered incapable of work by sickness or infirmity or if he has been discharged without compensation made. The Southern company has the same provisions, except where the discharge is due to insubordination or drunkenness, and grants pensions to employees with 15 years of service if injured or wounded, and to women who can not remain in service after the death or retirement of their husbands, fathers, or brothers. The Northern and Western require no condition either of age or service for employees injured in the service or rendered incapable of work.

The Paris and Orleans company has adopted a plan of pensions different from that of the other companies. This difference consists in transferring the payment of the pensions to the national fund (*Caisse nationale des retraites pour la vieillesse*). The Caisse nationale is an organization which has been active since 1851, and which had, in 1896, 1,811,685 accounts, amounting to 37,913,000 francs ($7,317,209). Of these accounts, 1,776,266, or over 98 per cent, were collective—that is, made for or by organizations of men—and only 2 per cent individual, although the individual accounts were, on an average, twelve times as high per depositor as the collective accounts. It is not only the railway man, but also employees in mining, metallurgy, and other industries, employees of the State, the departments, and the communes, etc., that are inscribed in the national fund, but the proportion of railway men and the size of their accounts are very considerable. The policy of inscribing the men in the national fund, although now being adopted more generally, was originated by the Paris and Orleans Railway. The commissioned employees were not called upon for any contribution; the noncommissioned and workmen were permitted at will to add 2 per cent of their wages to the fund. The contribution of the company was made directly to the national fund, both to commissioned employees and to noncommissioned employees and workmen having at least five years of service, the contribution amounting, in the case of the commissioned employees, to 10 per cent of their wages, and of the noncommissioned to 2 per cent. The decline in the rate of interest, however, which has affected the pension funds on French railways exceedingly disadvantageously, has rendered these contributions insufficient. In 1896, for example, the 10 per cent on the salaries of the commissioned employees amounted to only 3,064,523 francs ($591,453), and the 2 per cent to workmen to only 106,087 francs ($20,475), while the amount needed to give every employee, after 25 years of service and 55 years of age, one-half of his salary plus one-fortieth for each additional year (maximum, however, three-fourths of salary) amounted to about 5,600,000 francs ($1,080,800). In consequence, a supplementary subvention was rendered necessary, as usual, which amounted in 1896 to no less than 2,429,566 francs ($468,906). Besides this, the company contributed 173,574 francs ($33,500) to employees injured or incapacitated before they had a right

to a pension, making a contribution in all of 5,773,750 francs ($1,114,334), as compared with 106,087 francs ($20,475) furnished by the men.

The majority of pensions paid at any given moment go to the men themselves. Of the 9,109 persons pensioned in 1896 by the Northern, 4,675, or 51 per cent, were employees; 4,341, or 48 per cent, wives or widows of employees; and 93, or 1 per cent, orphans. On the Eastern 60 per cent were employees and 40 per cent widows; on the Western 57 per cent were employees, 41 per cent widows, and 2 per cent orphans; while on the Southern 75.3 per cent were employees, 24.4 per cent widows, and 0.3 per cent orphans. The variations are due to differences in the treatment of the heirs of the employee.

The relief funds of French railway companies are quite unimportant. The Northern and Paris, Lyons and Mediterranean companies have no relief funds at all, but distribute relief from their own resources. Thus, the Paris, Lyons and Mediterranean in 1896 offered assistance to 4,574 employees on single occasions, and gave annual assistance to 1,095 others, distributing to these 5,669 employees a total sum of 795,134 francs ($153,461), a trifle over $27 per employee. The largest organizations are those of the Eastern and Southern railways, the Eastern having 20,560 and the Southern 15,762 participants in their funds. The Southern devoted, in 1896, 214,071 francs ($41,316) in aiding 1,756 cases, 42 per cent of which was for employees and 58 per cent for widows and orphans. The funds of the organization are supported by the men and the companies combined. The Eastern retains 1 per cent and the Western 2 per cent of the salaries of the men, and make an equal contribution themselves. The Southern and State railways make a smaller contribution, amounting to about 70 per cent of that of the men. A large proportion of the receipts are taken up with the cost of management, except in the case of the Eastern, and the balances are small, ranging from 1,237,543 francs ($238,846) on the Southern to 36,929 francs ($7,127) on the Western Railway.

APPRENTICESHIP.

The problem of educating the young men who enter the railway workshops to a thorough knowledge of the work expected of them has received a great deal of discussion in France, and the subject has been treated in several publications. In consequence, the present discussion has been rendered less detailed, the reader desiring more information being referred to the discussions before the International Railway Congress in London and the report upon the subject by M. Sauvage, of the Western Railway of France. (*a*)

The importance of obtaining skilled workmen for the railway workshops has always been felt, and from the beginning attempts have been

a Note sur l'apprentissage dans les ateliers des chemins de fer français. Brussels, 1896.

The subject is also treated in several articles appearing during the year 1891 in the Annales du travail and the Bulletin de la Société de protection des apprentis.

made by the French railways to build up a staff of thoroughly trained men. In the large cities this demand has been met to a certain degree by men who have received their training in other than railway shops; but even here, and to a still greater degree in the smaller industrial centers, it has been found necessary for the railways to accept apprentices and to educate them themselves. As a rule, the apprentices have been chosen from the children of present or former employees and have been kept for three years, but have not been placed under contract. In the nature of the apprentice schools and the character of the instruction offered, however, there has been a wide divergence in the practice of the various railway administrations. One of the chief points of difference is that of instruction in special or in ordinary shops. The advantage of special shops is that the whole time of the instructor may be devoted to the technical education of the apprentice, but under this system the company must either forego the use of the product of the apprentices or keep them at one sort of work so long as to prevent them from obtaining a thorough and rounded education. The Northern Company, however, has a school of this character in Paris. The 10 hours are divided into 5 hours of theoretical study in the forenoon and 5 hours of manual work in the afternoon, the latter being chiefly practice, and not primarily intended for the regular output of the shop. The general practice of most railways, however, is to teach the apprentices the use of the tools and then to put them at useful work; but a few hours of the 10 are usually devoted to lectures and theoretical work. Under this system the apprentices receive a salary from the beginning, which increases with the length of the period of apprenticeship. Thus, on the Western Railway apprentices who have not served at all before are paid at the rate of 8 to 10 centimes (1.5 to 1.9 cents) per hour; their wages are then raised occasionally 2 centimes (0.4 cent) an hour until a maximum wage is reached, which for boys from 14 to 15 years of age is 14 centimes (2.7 cents); from 15 to 16 years, 18 centimes (3.5 cents); from 16 to 17 years, 24 centimes (4.6 cents); from 17 to 18 years, 32 centimes (6.2 cents); from 18 to 19 years, 40 centimes (7.7 cents); and from 19 to 20 years, 48 centimes (9.3 cents).

An interval of at least two months elapses, however, between two consecutive increases of pay. Examples of this system are to be found in the shops of the Eastern Railway and of the State Railway at Tours. The apprentices are sometimes kept in a separate shop, or in a separate part of the shop, under the charge of a certain group of workmen, or they may be distributed throughout the whole workshop.

The instruction in the shops depends upon the age and capabilities of the lads apprenticed. In general it consists of a theoretical education, including reading, writing, grammar, history, geography, arithmetic, geometry, and, above all, drawing. This part of the instruction also includes the study of the general properties of wood, metal, and other substances used in the shops. The manual training received has special reference to the making of parts of engines; the boys become

fitters, turners, and sometimes blacksmiths and boiler makers. The instruction may also take the form of a special training that fits the lads to become painters, workers in leather, carpenters, etc., to be eventually used in the construction and repair of passenger carriages.

While the apprentice shops are of long standing, they were formerly very small. Thus, on the Eastern Railway Company apprenticeship was introduced in 1852, but by 1867 there were but 85 and in 1877 but 97 apprentices. In 1884 the company determined to expand and enlarge the institution, and in 1896 there were 238 apprentices receiving their training in this school. The apprentice school at Tours antedates the State Railway Company to which it belongs, having been founded in 1876 by the old Vendée Company, and the Northern Railway apprentice shop, which now has 47 apprentices between the ages of 13 and 17, was established as early as 1874. The apprentice schools in the workshops of French railways seem capable of considerable further development.

WOMEN EMPLOYEES.

The competition of women with men for industrial positions has been rather keenly felt in French railways, and the number of female employees has been steadily increasing. In 1876 there were 13,350 women employed on French railways; in 1881 there were 17,235; in 1886, 21,924; in 1891, 24,014, and in 1896, 25,626 women. In other words, there were 77 women per thousand employees in 1876 as compared with 102 per thousand in 1896. In one sense the women enter into competition with the men, as they occupy positions which would otherwise have to be filled by men; but as they are frequently wives or daughters of present, or widows of former employees, their employment is not considered as a hardship by the labor staff. The fact, however, that they stand in a domestic relation to some of the male employees has a decided effect upon their wages and upon the character of the work they perform. As will subsequently be seen, the wages of women are extremely low, even for female labor, and this is rendered possible by the fact that their wages need not be sufficient to support them but are considered as extra earnings on the part of the family.

The family relation between the men and women renders it also imperative to put the women at work in which they will be enabled to remain at home, and they are therefore largely employed as gatekeepers at level crossings. Thus the Northern Railway of France employs 2,556 women in the department of way and works as compared with 497 women in all other departments; the Eastern 2,609 as against 269 in all other departments; the Western 3,499, as against 412; the Paris and Orleans 4,006, as against 490; the Paris, Lyons and Mediterranean, 5,381, as against 818; the Southern 2,360, as against 223; and the State railways 1,810 women in this department as against 299 in all

other departments. There are more women employed in the department of movement and traffic than in that of traction and material, and more in this department than in the general administration.

The general work undertaken by women includes the selling of tickets, keeping of books, etc., and they are sometimes employed in the telegraphic bureaus. The Eastern Railway employs a large number of women in the stations, their principal work being that of selling journals and other articles, attending to the toilet rooms, and sometimes clerical work. As before stated, however, the great majority are employed at crossings.

The female, like the male, employees of the railways are divided into those paid by the month and those paid by the day, hour, or piece, and in the statistical tabulation of 1895 there were 15,319 in the first class and 3,718 in the second. Of the female employees paid by the month, over 99 per cent were between the ages of 19 and 60, inclusive, there being 13 employees under 19 and 106 over 60 years of age. Of those between 19 and 60 years of age, 884, or 6 per cent of the total number employed by the month, were between the ages of 19 and 25; 11,566, or 75 per cent, between 26 and 45 years, and 2,750, or 18 per cent, between the ages of 46 and 60 years. This distribution of ages shows the preponderance of married or widowed women among the employees paid by the month, as may be seen by comparing them with the female employees paid by the day, hour, or piece, who are not recruited so largely from the same class. Of these, 364, or 10 per cent, were under 19 years of age, and 1,005, or 27 per cent, between the ages of 19 and 25 years, while only 1,831, or 49 per cent (as against 75 per cent of those paid by the month), were between 26 and 45 years of age. Of the still older women employed by the day, hour, or piece, 458, or 12 per cent, were between 46 and 60 years, and 60, or 2 per cent, above 60 years of age.

MONEY WAGES OF WOMEN.

The wages of female employees in French industries is a little over one-half as great as that of male employees, the average daily wages for 21 groups of industries being 2.10 francs ($0.41) for women and 3.90 francs ($0.75) for men, a proportion of 54:100. The disproportion in the money wages of female and male employees on French railways, however, is still greater. Of the 15,319 women employed by the month, 5,275 or more than 34 per cent obtained less than 15 francs ($2.90) per month, and 7,703, or 50 per cent, between 15 and 25 francs ($2.90 and $4.83). There were thus only 15 per cent of all obtaining over 25 francs ($4.83) a month, less than 1 in 23 obtaining over 40 francs ($7.72) a month, and only about 1 in 250 obtaining over 55 francs ($10.62) a month. A similar tendency toward very low wages is to be noted among the female employees paid by the day, hour, or piece.

FREE LODGING OF FEMALE EMPLOYEES.

A false idea of the real earnings of female employees, however, would be obtained if an account were not taken of the free lodging which forms a considerable part of their wages, and which is still more common among female than among male employees. Thus, of the employees paid by the month and engaged in the maintenance of way, the Northern Railway furnishes lodging for 24 per cent of the men and 92 per cent of the women. The company estimates the value of these lodgings at about 15 francs ($2.90) per month for the men and a little more than 12 francs ($2.32) for the women, but these estimates appear to be a trifle exaggerated. The Eastern Railway lodges its female employees and estimates the value of this subvention at 10 francs ($1.93) per month, while the Southern Railway, which lodges almost all of the women employed, judges the value to be about one-tenth of their income or about 3 francs ($0.58) per month. In all of these cases the companies seem to have made an exceedingly rough guess at the value of the lodging. It may be stated, however, that almost all of the women are lodged free, and a safe estimate of the amount of money saved to the female employees by this fact will not place it much below 10 francs ($1.93) per month, if it is not actually above that figure.

ACCIDENTS AND LIABILITY OF COMPANIES.

During the summer of 1898 the position of the railway employees was very considerably modified by the passage of an employers' law (*loi sur les accidents de travail*). While this law does not apply peculiarly to railway employees, the unusual number of accidents in this industry renders the law of special significance to them. The demand for such a measure is not new. The agitation for an accident law has been carried on with more or less vigor for twenty years, but the proposed bills have had checkered careers. As early as May 29, 1880, a bill of this nature was introduced into the Chamber. It was not acted upon, however, until October 23, 1884, when the first vote was taken. The bill did not pass, and other measures were introduced, one by M. Rouvier, March 24, 1885, and another by M. Locroy in 1886. This measure was adopted by the Chamber in 1888 and sent to the Senate which returned it in 1890, thoroughly amended and revised. The old bill was then rejected, and a new bill drawn up by the minister of commerce, M. Jules Roche, which was presented in 1890, and was followed by six other bills, which were brought forward in 1891. The bill was passed in 1893 by the Chamber, returned from the Senate again in 1896, was repassed by the Chamber in the latter part of the year 1897, and after being amended once more was finally adopted at the beginning of 1898. Thus the French and British laws on accidents came into operation at practically the same moment.

This law which applies to a number of other industries besides that

of transportation by land, provides the granting of a certain proportion of the salary, up to 2,400 francs ($463.20) a year, in case of accident. For absolute and permanent incapacity, the employee receives two-thirds of his salary; for permanent but only partial incapacity, one-half of the difference between the wages formerly earned and the wages which the employee is now able to obtain, and for temporary accidents, the payment of one-half the wages, to be paid after the fifth day from the time of the accident. In case of the fatal issue of the accident, one-fifth of the salary of the employee is paid to his wife, provided she be not divorced or separated from bed and board, and provided the marriage has been contracted before the accident. The children of either parent, if legitimate or legitimatized before the accident, receive 15 per cent of the salary if there is one child, 25 per cent if there are two, 35 per cent if three, and 40 per cent if four or more, to be paid until they are sixteen years of age. The children of both parents receive 20 per cent each, but no more than 60 per cent for a family of children must be paid. When there are no wife or children, the dependent ascendants or descendants may receive 10 per cent each, but no more than 30 per cent in all. Foreign workmen, victims of accidents, on leaving the country receive a sum equal to three times the annual pension, but the dependents of an injured foreign employee receive nothing unless residing in France at the time of the accident. The proportion of the salary paid is based upon 2,400 francs ($463.20) only; above that sum only one-fourth of the percentage is paid. Thus if a conductor with a salary of 1,800 francs ($347.40) is permanently and totally incapacitated, he receives a pension of two-thirds of 1,800 francs ($347.40) or 1,200 francs ($231.60) a year; if the salary is 2,100 francs ($405.30) the pension is 1,400 francs ($270.20); if 2,400 francs ($463.20) it is 1,800 francs ($347.40); but if the salary is 5,100 ($984.30) the award is only 2,250 francs ($434.25), for in this case he would receive only two-thirds of his wages up to 2,400 francs ($463.20) and one-fourth of two-thirds, or one-sixth, of his wages above that figure.

The railway, like other employing companies, is to be charged with the cost of drugs and medical attendance and with the funeral expenses, which latter, however, must not exceed 100 francs ($19.30). The company is not obliged to duplicate these charges if they are already provided for by relief societies, toward which the companies pay a sufficient quota. The law also provides a series of safeguards in determining the salary and minutely regulates the method of procedure under the act.

The following table taken from the official reports shows the decrease in the number of accidents to employees. There is a decrease in the total number of fatal accidents, the average number being 224 per year from 1876 to 1880, 255 from 1881 to 1885, 196 from 1886 to 1890, and 237 from 1891 to 1896. This decrease, however, is considerably greater if we consider the increased number of men now employed or the increased

amount of work performed. The decline in the number of injuries is still greater, but the absence of any fixed standard as to what constitutes an accident invalidates any conclusions drawn therefrom.

EMPLOYEES KILLED AND INJURED BY ACCIDENTS ON RAILWAYS OF FRANCE, 1876 TO 1896.

Year.	Killed.	Injured.	Killed per 100,000,000 car kilometers (62,137,000 car miles).	Injured per 100,000,000 car kilometers (62,137,000 car miles).
1876	224	3,532	6.98	110.11
1877	180	3,476	5.57	107.51
1878	215	3,781	6.28	110.53
1879	224	1,721	6.25	48.01
1880	269	936	6.83	23.76
1881	305	924	7.37	22.32
1882	312	772	7.21	17.84
1883	263	761	5.92	17.13
1884	208	657	4.74	14.99
1885	187	559	4.39	13.12
1886	177	449	4.24	10.77
1887	176	398	4.10	9.26
1888	191	474	4.31	10.69
1889	244	584	5.28	12.65
1890	194	683	4.09	14.39
1891	248	776	5.03	15.73
1892	270	924	5.34	18.28
1893	281	898	5.35	17.09
1894	236	647	4.43	12.13
1895	225	576	4.17	10.68
1896	184	456	3.33	8.26

LABOR ORGANIZATIONS AND STRIKES.

By far the most important labor organization in France is the National Trade Union of Railway Workers of France and the Colonies (*Syndicat national des Travailleurs des chemins de fer de France et des Colonies*). This organization consists of employees of the railways, and has its seat in Paris. Its objects, according to its constitution adopted in conformity with the law of March 21, 1884, are as follows: The union devotes itself to the study and defense of the economic interests of the organization; it gives its moral and pecuniary aid to those of its members engaged in legal contests with the companies; it attempts to regulate as far as possible by amicable methods all disagreements of whatever nature submitted to it by its members, and strives to obtain from the Government laws and decrees tending to improve the conditions of railway workers. The union further strives to become the intermediary between the railway companies and their employees, and to present the grievances both of individual unionists and of the whole trade union.

Any employee of the railway companies may become a member of the union by promising adherence to the constitution and by-laws of the society and by paying an initiation fee, which amounts to 50 centimes (10 cents) for men and 25 centimes (5 cents) for women. The dues are fixed at 1 franc (19.3 cents) per quarter for men and at 25 centimes (5 cents) per quarter for women, and are payable in advance. A failure

to pay dues for six months is equivalent to a dismissal from the society, but such ex-members may be readmitted, with the consent of the group to which they belonged, on the same term as new members. Members who are without valid cause over three months in arrears of dues have no claim to the aid of the society.

There are no reliable statistics of the strength of the union. Its membership has been estimated at 30,000, but this is merely an estimate in the absence of official figures. The society itself claims over twice this number of adherents. The society has a weekly, which was formerly called the Réveil des Travailleurs de la Voie ferrée. This paper was sentenced to pay damages in a suit brought against it early in 1898, and it consequently ceased to exist, but immediately afterwards reappeared under a new name, La Tribune de la Voie ferrée. The tone of the paper is violent.

During the summer of 1898 the union repeatedly threatened a general strike throughout France. The strike, however, did not occur. A strike in the early nineties was insignificant and easily put down.

ATTITUDE OF THE STATE AND THE COMPANIES TOWARD EMPLOYEES.

The French workman has a legal status differing in many respects from that of the English or American workman, owing to fundamental differences in the legal framework of the various countries. Among French workmen themselves the railway employees are upon a somewhat different footing from those engaged in other industries.

This was naturally to be expected from the nature of the railway industry and from the attitude of the State to railway enterprises. The quasi-public nature of the railway is clearly recognized by French law, and the necessities of the case have occasioned the passage of a series of legislative measures which give the railway employee a legal status considerably different from that of other workmen.

The contracts between the French railway companies and the State give to the former a large measure of initiative in the management of their roads. This is particularly the case with reference to their staff, the company being allowed in the main a free hand in the appointment and dismissal of officials. It is true that the State reserves certain rights, based upon considerations of a public nature. In the first place, the action of the companies toward their staff may influence disastrously the financial status of the railway and increase the sacrifice that the State must make in guaranteeing the interest upon capital. In the interest of the public safety and of the comfort of travelers, moreover, the State reserves the right to compel a company to increase the number of its employees, provision being made in the law of June 11, 1842, in the ordinance of November 15, 1846, and in the agreements and charters for the case of an insufficiency in the number of employees. These powers of the State are exercised in right of the general power

of supervision, as well as in virtue of special contracts by which the State guarantees the financial position of the company. The State, moreover, possesses powers which do not arise from the same circumstances. Thus the decree of March 27, 1852, provides that the active staff (by which is meant the persons employed in working the traffic, and not including those in the offices of administration, nor those employed by the day) employed by the various companies is subject to the supervision of the administration, and the administration may require the dismissal of an employee after the company has been heard. While the right thus reserved to the State has been used on a few occasions, and has, in fact, been subsequently reaffirmed in a circular of the minister of public works, July 9, 1877, it is essentially a political measure and involves no constant interference in the conditions of labor on the railways.

One of the chief changes in the legal status of the railway employee was effected by the law of December 27, 1890. Prior to the passage of this law the labor contract of the railway employee was made, like that of other workmen, in conformity with the provisions of the civil code, but as the amelioration invoked by the railway employees was at the same time extended to all other employees, the law of 1890 did not create a difference between the legal position of railway and that of other employees, but rather introduced a similar change in the conditions of employment of both.

According to article 1780 of the civil code, the principle is established that one may hire himself out or engage his services for a limited period only. This was to prevent the recrudescence of a form of servitude or slavery under the guise of a permanent contract for services. A contract for an indefinite period might, therefore, be terminated at the wish of either party, since if the consent of both parties were necessary the contract would create a virtual servitude. The code does not prescribe any damages, provided the party terminating the contract does so with the proper notice, and the general principle that either party may give notice at any time applies equally to the railway service.

In the case of the railway employees, however, the reciprocal liberty of terminating the labor contract at will gave a great advantage to the companies and worked a serious hardship to the employees. The long term of service, the impossibility, after a certain period, of obtaining or performing other equally remunerative work, the economic superiority of the company, and the loss of pension (*a*) involved by a dismissal from a company rendered the position of the employee particularly unfavorable so long as the tenure of his position was not legally assured. According to the law, however, the company was in no wise

a The loss of the pension was felt to be a particularly intolerable result of a dismissal without cause, as the pension fund was contributed to not only by the railway companies, but by deductions from the men's wages.

compelled to assign a good and sufficient cause for the dismissal of its employees. On the principle that no one can incur the payment of damages by simply making use of his right, *neminem lædit qui suo jure utitur*, the court of cassation repeatedly reversed judgments in which damages had been assessed, merely because the company had dismissed its employees without a legitimate excuse and without indemnification. An arrêt of May 10, 1875, formally declares that a company is not compelled to give an account of its motives in dismissing its employees.

Without discussing the evolution of the law of 1890, which remedied these conditions, it may be stated that the agitation was commenced by the locomotive engineers and firemen in 1871, and that from 1871 to 1876 attempts were made to exempt these classes of employees from the operation of the Code. The proposed alteration was, in the course of endless debates reaching over a period of years, subsequently extended to include all commissioned employees, and subsequently all railway employees whatsoever. Before its final passage, moreover, the law, which had been primarily intended for enginemen and firemen, was applied to all classes of workmen. Its title, "Law upon the labor contract and the relations of railway employees to the companies," bears unmistakable traces, however, of the original intentions of its promoters.

This law, which is exceedingly important, as insuring the position of railway employees, is practically the following: Article 1780 of the Civil Code is amended to read that the labor contract for an indefinite period may always be terminated at the desire of either of the contracting parties; that, however, the canceling of the contract at the wish of one of the parties may give rise to a suit for damages. The law further provides that in the determination of the indemnity to be allowed, reference should be had to the usual customs, to the character of the services, the length of time employed, the money contributed toward pensions and relief funds, the amount of wages withheld, and, in general, to all circumstances which may justify the existence and determine the amount of the damage caused. The law further protects the employee by preventing him from renouncing in advance the eventual right of claiming damages for dismissal under this act.

BELGIUM.

EMPLOYMENT ON STATE RAILWAYS.

There are three classes of employees on the State railways of Belgium. These classes consist of the officials (*fonctionnaires*), who are nominally appointed by the King, the higher employees who are appointed by the minister, and the subaltern or lowest grades, *agréés* and *ouvriers*. There is no real difference between the officials and the higher employees, as in actual practice the King does not interfere with appointments, but leaves that to the minister of railways, post-offices, telegraph, telephones,

and navigation. With the exception of the workmen (*ouvriers*) and the female employees, all persons engaged on the State railways are Government officials, with all the duties and responsibilities of such.

In 1896 there were 48,415 persons employed on the Belgian railways, of whom 7,159, or 15 per cent, were officials and higher employees, and 85 per cent were subalterns. The relative proportions of these groups to each other do not differ greatly from year to year, although there is naturally a certain tendency for the officials to be recruited less rapidly than the lower grade employees. From 1886 to 1896 the number of officials and higher employees increased from 6,162 to 7,159, or about 16 per cent; that of the subaltern employees (*agréés* and *ouvriers*) from 32,854 to 41,256, or about 26 per cent.

The total number of employees increased much more rapidly than the mileage of the Belgian State railways, but somewhat less rapidly than the receipts, as the following comparison will show:

INCREASE IN MILEAGE, RECEIPTS, AND PERSONS EMPLOYED, BELGIAN STATE RAILWAYS, 1886 TO 1896.

Items.	1886.	1896.	Increase (per cent).
Railway mileage	5,149.7	5,359.8	4.1
Traffic and other receipts	$22,472,846.85	$30,947,096.84	37.8
Persons employed	39,016	48,415	24.1

From this table it is clear that while the traffic has increased sufficiently to more than counterbalance the increase in the number of persons employed, there has been at the same time no commensurable increase in the length of the line, and the increase in the number of men has been due not to traffic on a longer line, but a denser traffic on the same line.

The State railways employ 14.5 persons for every kilometer of railway, or 23.3 men per mile of road, and this proportion, which does not include the privately owned railways, is greater than that of any country in the world. The proportion of Belgians devoted to the business of railway transportation, however, is smaller than in the United States or the United Kingdom. If we add to the 48,415 persons employed on State railways the 2,708 higher and 8,703 lower grade employees of private companies, the total number, 59,826, shows only 9.2 persons employed on railways for every 1,000 of the population in 1896.

HOURS OF LABOR.

In the regulation of the length of the working day it has been found easier to arrange the number of hours in the central administration than in the active service. By a ministerial decree the hours of work in the *administrations centrales du département* are fixed at from 8.30 a. m. to 12 m., and from 2 p. m. to 5.30 p. m., in other words, to 7 hours in all. The

generally prescribed minimum of work in the active service is 8 hours, to be arranged by the various division and section chiefs. The actual length of the working day, however, is considerably in excess of this minimum. The men employed in the maintenance of way and structures have a working day of 12 hours, but as this includes 2 hours for meals the effective working day is only 10 hours. The effective working day in the workshops is also 10 hours, and since 1895 the workmen at the stations have been employed a maximum of 12 hours a day. Those employed in the surveillance and policing of the track are limited to a day of 12 hours in all cases where there is a complete night service. Upon lines of feebler traffic the work varies from 8 up to 14 hours, according to the importance of the posts. The hours of enginemen, firemen, and brakemen have also been reduced within recent years. In former years the working day frequently attained 17 hours, but it has been successfully reduced to 15 and latterly to 13 hours. The present maximum of 13 hours includes not only the time for meals, but that of actual presence on the machines before and after the service, which is estimated as two half-hours. Another reform which has been introduced into the regulation of the hours is involved in the change from day to night service. Formerly this change sometimes kept the employee at his post for 18 or 24 hours, but this has now been reduced to 12 hours.

To each of its employees the Belgian State railway administration guarantees a daily uninterrupted rest of 8 consecutive hours at his own house. Employees working in the more important stations are allowed an interruption of an hour in their work to allow them to take their meals outside. The employees are also accorded 2 free hours every Sunday and legal holiday in order to permit them, if they so desire, to attend divine service with regularity. Until 1887 every employee was granted 1 free day per month with pay, but in that year it was made 2 free days per month, and in 1891 the number of free days with pay was increased from 24 to 28 per year.

CLASSIFICATION AND WAGES OF EMPLOYEES.

With the exception of 15 administrators, general inspectors, and administration directors, drawing salaries from 8,000 to 12,000 francs ($1,544 to $2,316) a year, the officials and higher employees (*fonctionnaires et employés*) are divided into the technical and the administrative staff. The technical staff includes direction inspectors, engineers, section chiefs, subsection chiefs, etc., while the administrative officials include, among others, inspectors, division chiefs, bureau chiefs, controllers, station masters, clerks, draftsmen, etc. Their salaries naturally range very widely, but in the following statements the most important conclusions from the mass of data existing upon this subject are given:

The annual wages of 7,953 officials and higher employees were 17,148,725 francs ($3,309,703.93), the average wages being 2,156 francs

($416.11). Where the parts of the group are so dissimilar, however, the average rate of wages is of little value. For the group of 1,345 clerks (*agréés*) the average wages were 107.70 francs ($20.79) per month, but even here the average covers wide extremes. The following table shows the number receiving each specified rate of wages:

WAGES OF CLERKS (AGRÉÉS), BELGIAN STATE RAILWAY SERVICE.

Wages per month.	Number.	Per cent.
150 francs ($28.95)	127	9
140 francs ($27.02)	118	9
130 francs ($25.09)	158	12
120 francs ($23.16)	150	11
110 francs ($21.23)	168	13
100 francs ($19.30)	148	11
90 francs ($17.37)	150	11
80 francs ($15.44)	114	8
70 francs ($13.51)	212	16

Space does not permit more than a very general idea to be given of the scale of wages. Of the 65 engineers (divided into three grades), 60 per cent draw salaries of between 4,500 and 5,000 francs ($868.50 and $965) per year, the average for the group being 4,329 francs ($835.50). Of the section chiefs, 60 per cent draw 4,500 francs ($868.50), and 90 per cent either that sum or 4,000 francs ($772), the average for the group being 4,265 francs ($823.15). Of the subsection chiefs, over two-thirds draw the maximum salary, 3,100 francs ($598.30), the average for the group being 2,915 francs ($562.60). The division chiefs range from 5,500 to 7,000 francs ($1,061.50 to $1,351), with an average of 6,409 francs ($1,236.94). The bureau chiefs and draftsmen range from 4,000 to 5,500 francs ($772 to $1,061.50), with an average of 4,908 francs ($947.24). The 564 station masters are divided in the manner shown in the table following:

WAGES OF STATION MASTERS, BELGIAN STATE RAILWAY SERVICE.

Class.	Wages per year.	Number.	
First	5,000 francs ($965.00)	14	29
	4,500 francs ($868.50)	15	
Second	4,000 francs ($772.00)	21	38
	3,500 francs ($675.50)	17	
Third	3,100 francs ($598.30)	85	121
	2,700 francs ($521.10)	36	
Fourth	2,300 francs ($443.90)	183	294
	2,000 francs ($386.00)	111	
Fifth	1,700 francs ($328.10)	82	

While the wages here range from 1,700 to 5,000 francs ($328.10 to $965), the majority of all station masters belong in the fourth class, and the percentage in the first and second classes is very small. The average wages for the whole group are only 2,525 francs ($487.33). In the case of the clerks and draftsmen, also, the maximum and minimum

wages give no indication of the actual amount of wages paid; but here the large numbers cluster around the higher, instead of the lower, rates of wages, as shown in the following table:

WAGES OF CLERKS AND DRAFTSMEN, BELGIAN STATE RAILWAY SERVICE.

Class.	Wages per year.	Number.	
First	3,100 francs ($598.30)	248	1,523
	2,700 francs ($521.10)	870	
	2,300 francs ($443.90)	405	
Second	2,000 francs ($386.00)	208	219
	1,700 francs ($328.10)	11	
Third	1,400 francs ($270.20)	207	207
	1,200 francs ($231.60)	....	

While the salaries in this case nominally range from 1,200 to 3,100 francs ($231.60 to $598.30), there are no clerks or draftsmen drawing the lowest-mentioned salary, and considerably over three-fourths of all are in the first class. The average wages for the 1,949 clerks and draftsmen are 2,449 francs ($472.66). The wages of the subclerks are considerably less. They range from 900 to 2,000 francs ($173.70 to $386) per year, but over 60 per cent of them have salaries of either 900 or 1,050 francs ($173.70 or $202.65) per year, and the average for the group is only 1,143 francs ($220.60) a year, or 95.25 francs ($18.38) per month.

The workmen proper (*ouvriers*) are usually paid by the day, but there are a few paid by the month. The doorkeepers and messengers, receiving monthly salaries, usually begin with a salary of 40 francs ($7.72) a month, which is accorded to beginners of 16 or 17 years of age. The wages of the great majority of workmen, however, are reckoned by the day. Among these, one of the largest groups consists of the signalmen for the working of block signals and those stationed at crossings. The wages of male signalmen range from 80 centimes to 3.60 francs ($0.15 to $0.69) a day, but neither of the extremes is well represented. Those earning wages of from 80 centimes to 1.80 francs ($0.15 to $0.35) are very young or very old persons, who are fit to be trusted only on unimportant lines, but not 1 per cent of all male signalmen receive over 3 francs ($0.58) a day. About 94.5 per cent receive wages between 2 and 2.80 francs ($0.39 and $0.54), the average being 2.40 francs ($0.46). The pay of the women working signals is less than one-third of this sum. The average daily pay for the 1,643 female gate keepers is 70 centimes ($0.14), the wages for the group ranging from 30 centimes to 2 francs ($0.06 to $0.39) a day. The following shows the daily wages for over 99 per cent of the women employed in this way:

Daily wages of 209 female gate keepers	40 centimes ($0.077)
Daily wages of 19 female gate keepers	50 centimes ($0.097)
Daily wages of 644 female gate keepers	60 centimes ($0.116)
Daily wages of 549 female gate keepers	80 centimes ($0.154)
Daily wages of 208 female gate keepers	100 centimes ($0.193)

The money wage of these women, however, is but a part of their real wages. Almost all of the women have a little house, and are usually the wives of employees of the company. They are frequently wives or widows, sisters or mothers, of the track men. There are also employed at level crossings on lines with very feeble traffic about a hundred (91) women who do not receive any money wages at all, but who have the free use of a small house and of a garden. The wages of the majority of blacksmiths and masons fluctuate between 3 and 4 francs ($0.58 and $0.77) a day, the wages in no single case amounting to over 4.50 francs ($0.87) per day.

Among the larger groups in the department of traction and material are to be found the enginemen, firemen, and brakemen. These groups are usually in receipt of monthly wages, but the wages of the first group are naturally considerably higher than those of the second and third. Ninety-seven per cent of all enginemen (1,822) receive from 120 to 160 francs ($23.16 to $30.88) per month, while the remaining 3 per cent receive wages of over 160 francs ($30.88). The following shows the number receiving each specified rate of wages:

Monthly wages of 2 enginemen	200 francs ($38.60)
Monthly wages of 50 enginemen	180 francs ($34.74)
Monthly wages of 204 enginemen	160 francs ($30.88)
Monthly wages of 657 enginemen	140 francs ($27.02)
Monthly wages of 909 enginemen	120 francs ($23.16)

The firemen and brakemen receive approximately the same wages, the advantage being slightly in favor of the firemen. The average wages are about 98 francs ($18.91) per month for firemen and about 96 francs ($18.53) for brakemen. The following statement shows the number of firemen and brakemen receiving each specified rate of wages:

Monthly wages of 58 firemen and 1 brakeman	120 francs ($23.16)
Monthly wages of 152 firemen and 199 brakemen	110 francs ($21.23)
Monthly wages of 948 firemen and 408 brakemen	100 francs ($19.30)
Monthly wages of 677 firemen and 773 brakemen	90 francs ($17.37)

The number of instances might be indefinitely multiplied, but a few more illustrations must suffice to show the very low rate of remuneration prevailing on the Belgian State railways. The wages of machine tool hands range from 2 to 4.40 francs ($0.39 to $0.85) a day, that of almost five-sixths of them, however, between 2.40 and 3.20 francs ($0.46 and $0.62). The wages of turners range from 2 to 5.60 francs ($0.39 to $1.08); that of nine-tenths of them between 2.60 and 4.20 francs ($0.50 and $0.81), and of four-fifths between 2.60 and 3.80 francs ($0.50 and $0.73). The wages of the ordinary laborers range from 2 to 5 francs ($0.39 to $0.97) per day, but the wages of 95 per cent of all are as follows:

Daily wages of 253 ordinary laborers	3.00 francs ($0.58)
Daily wages of 381 ordinary laborers	2.80 francs ($0.54)
Daily wages of 552 ordinary laborers	2.60 francs ($0.50)
Daily wages of 960 ordinary laborers	2.40 francs ($0.46)
Daily wages of 281 ordinary laborers	2.20 francs ($0.42)
Daily wages of 135 ordinary laborers	2.00 francs ($0.39)

Of the total number, therefore, almost three-fifths receive either 2.40 or 2.60 francs ($0.46 or $0.50) a day. These wages are about the same as those of the packers. For the packers the maximum wage is 3 francs ($0.58); but 40 out of a total of 1,604 receive a higher wage, from 3.20 to 4 francs ($0.62 to $0.77), either because they are of exceptional ability and of long service, or living in localities where living is very dear, or because they are employees who have been injured in the service and who continue to draw their former wages. Over 95 per cent of all chargers receive wages varying from 2.20 to 3 francs ($0.42 to $0.58), the average for the group being 2.74 francs ($0.53) per day.

CONDITIONS OF ADMISSION INTO THE SERVICE.

The positions at the disposal of the Belgian State railways are granted as a result of examinations. The conditions and character of the examinations, as well as the composition of the examining body, are determined by the minister of railways, post-offices, telegraph, telephones, and navigation. The minimum age for applicants to this examination is 18 years in some and 17 years in other positions, while the maximum age for entrance is 24 years, except for engineers and a few other high positions, where the maximum age is 29 years. The maximum age seems to be prescribed with reference to the influence that a large number of older employees would have upon the pension funds. In the case of ex-soldiers, however, from whom the railway ranks are largely recruited, this would work an injustice, and for such cases the period of actual service is subtracted from the true age. Noncommissioned officers who have been pensioned on account of wounds received may take part in the examinations, no matter how long they may have served. A considerable number of positions are reserved for noncommissioned officers.

The Belgian State railway administration does not permit the entrance to examination of anyone who is not a Belgian subject or who is not of irreproachable morality. It is also demanded that the candidates be at least 5 feet in height and that they be exempt from any infirmity or physical defect. This latter condition is not always insisted upon in the case of railway employees injured in the discharge of their duties or of ex-noncommissioned officers who have been similarly wounded or injured, provided, however, that their physical condition does not incapacitate them for the discharge of their duties. No one is admitted to the examination, however, unless he has satisfied the provisions of the law with reference to service in the army, militia, or civic guard. If the examination has been successfully passed, the candidate may be put upon trial for six months or a year. After six months he may, if there are vacancies, be admitted to the regular service. On the other hand, he may be discharged after twelve months of trial if he does not display sufficient capacity, or at a still earlier period if convicted of misconduct or of gross incapacity.

GENERAL CONDITIONS OF EMPLOYMENT.

Before entering upon the duties of his office the employee of the Belgian State railways must take the oath prescribed for State officials by the National Congress on July 20, 1831. In certain classes of employment he must deposit security, the amount of which is determined by the minister. The railway employees are not allowed to be occupied during the term of their service with any remunerative position, either under the State, the provinces, the communes, or public or private administrations. It is equally forbidden to them to accept any elective office, to exercise any lucrative profession, to engage in any kind of trade either in their own names or those of others, or to participate in the direction or administration of any society or of any industrial or commercial establishment. Permission to accept such offices or employment, however, may be obtained in special cases from the minister.

The minister assigns to the functionaries of the railways their place of residence, and employees must live in the places so assigned. In exceptional cases, and with the consent of the minister, employees may live in a place other than that in which they are employed.

METHOD OF PROMOTION.

The promotion of employees takes place, as the case may be, according to age, merit, or zeal of conduct. While advance of salary is made conditional upon the state of the budget, it is attempted to gradually increase salaries with the increase in the age of the employees. The ordinary advance, however, is rather slow. No functionary or employee may be advanced to a superior position until he has been two years in his present position, nor can he receive an advance in salary before two years if his present salary is over 1,800 francs ($347.40). On the other hand, if his salary has not been augmented for six years, he may obtain the salary immediately above his, or an increase of a tenth of salary, if there is vacant no higher position for which capacities and terms of service fit him. If, on the contrary, by reason of age or infirmity, he is no longer able to perform the duties of his present position, he may at the instance of the minister be removed to an inferior position while retaining his former salary. Promotion by merit may take place in case of exceptional ability or extraordinary zeal, advance in such cases being more rapid. For each employee there is an annual report made, which is countersigned by his various superiors according to their rank, and this report may recommend the candidate to eventual promotion or to exclusion from promotion, despite his term of service. In all such cases the reasons for advancement or of exclusion must be indicated, and the promotion or advancement out of order must be made the subject of a special decree.

LEAVE OF ABSENCE, DISCIPLINARY REGULATIONS, ETC.

The officials and higher employees of the Belgian State railways are not allowed to absent themselves from duty without previous authorization, but such permission may not be refused if the absence is occasioned by the employee's desire to vote, to act as witness or juryman in a trial, or if he is required for service in the army or the civic guard. Absences of over a year are granted by the King at the minister's instance, of over a month by the minister, and of under a month by the administration chiefs, general inspectors, etc. All absences of over fifteen days, except in cases of sickness, involve loss of salary during the period in excess of such time, and any unallowed absence is attended by loss of salary, together with such other and more severe punishments as may be specially provided.

The disciplinary measures for the punishment of the officials and higher employees of the State railways are quite numerous. They are given in considerable detail in the Règlement Organique, which is based upon a royal decree of 1877, frequently modified and amended from 1877 to 1897. The punishment may consist in reprimand, in a deprivation of salary, suspension, enforced inactivity, lowering of one or more grades in position, or in dismissal. The last three punishments are inflicted by the King or by the minister, according to whether the employee has been nominated by the one or by the other. The suspension from activity is pronounced by the minister, and is limited to three months. The reprimand is inflicted in the higher ranks of the service by the minister and in the lower ranks by the directors or chiefs of service under whose direction the employees happen to be. Suspension from service is ordered in case of intemperance, carelessness, grave insubordination, and malversation of funds, and is attended by absence from the offices of the railway, and by deprivation of salary if the suspension is ratified by the minister. The cause of his suspension is always communicated to the accused employee, and he has the privilege of justifying himself in writing. If the accused is found guilty, he is subject to penalties varying in degree with the gravity of the charge. These penalties and the method of their application are determined by the minister or by a committee acting in his name. Three penalties during the course of a single year constitute in themselves sufficient ground for the dismissal of an employee.

ORGANIZATION OF RAILWAY EMPLOYEES.

The present minister of railways, who has occupied his position for fifteen years, has steadfastly refused the railway employees permission to form themselves into a trade union. In consequence there are no organizations of railway employees similar to those in countries with private railway management (United States, United Kingdom, France,

Switzerland, etc.). There have also been no strikes, the only methods of obtaining an improvement in the conditions of railway employment being by direct petition, by waiting for the initiative of the minister, or by agitation in the legislature. The separation of administrative from legislative functions robs the chamber of direct and constant control of the conditions of railway employment; but frequent questions are raised on this point during the year, and the debates upon the budget give opportunity for the members to express themselves and for the minister to answer objections. Thus, to take a single instance, in presenting the annual budget for 1895 the minister, besides answering the usual questions in reference to the administration of the railways, was called upon to reply to complaints to the effect that a large number of workmen had received no augmentation of salary for some time; that the female employees were insufficiently paid and poorly lodged; that the pension funds were unfairly administered, etc. It is not easy to determine to what extent the administration is susceptible to legislative influence, but the reforms introduced always appear to be at the instance and on the initiative of the minister himself.

While the State railway employees have not been permitted to form a trade union, they have been allowed to unite with the employees in the postal, telegraphic, and navigation departments of the Government in the formation of a cooperative society. This society, which is called L'Union Économique de Bruxelles, was originally formed in 1886, but its present constitution dates from 1890.

The object of the Brussels union is to obtain the amelioration of the condition of the employees without recourse to political means and with no interference in public affairs. It is primarily a cooperative society. Its method is to do away as far as possible with all intermediaries between producers and consumers; to sell necessary articles below the ordinary price; to obtain special reductions from retail establishments, and to establish restaurants where the employees can obtain food at the lowest price. It also makes loans and advances to members and establishes savings banks and relief funds.

The society is a limited company, formed for 30 years, with a minimum capital of 3,000 francs ($579), but with the privilege of increasing it indefinitely. The shares are 10 francs ($1.93) each, payable in ten monthly installments, and giving interest at 5 per cent, but no member may have more than fifty shares. All employees of the department of railways, post-offices, telegraph, and navigation are eligible, on being seconded by two members, promising adherence to the constitution, and paying the sum of 1 franc ($0.19), but for grave offenses may be excluded by a three-fourths vote. The society is governed by a council of administration of eleven members, under the control of five commissioners, all of whom are elected by the members. The profits of the society, over and above the 5 per cent interest upon the share capital, are divided among the members in proportion to the amount of their purchases, the division, however, taking place either in money or kind.

Provision is also made for a possible deficit. The deficit is to be made up from the first share of each member until these are exhausted, then from the second, the third, and so on; but upon the capital being reduced 50 per cent the society is dissolved.

PENSION AND RELIEF FUNDS.

By 1838, three years after the introduction of railways into the country, the Belgian Government had already begun to make arrangements for relieving the distress of employees, caused by accident, sickness, or other disability. The royal decrees of September 1, 1838, June 24, 1845, August 14, 1846, December 11, 1846, and October 30, 1851, regulating these matters, were superseded, however, in 1859 (December 16) by a decree which, with certain subsequent modifications, has become the basis of the pension and relief system for the workmen in the administration of railways, posts, and telegraphs in Belgium.

The Belgium pension relief fund is devoted exclusively to the intermediate and lower grades of employment. The officials and higher employees (*fonctionnaires et employés*), who receive their nomination by royal or ministerial decree, obtain a pension gratuitously, as will be seen later. The intermediate and lower employees who are admitted to the fund are divided into two classes—associates (*associés*), who by age and term of service fulfill the conditions of admission to the regular, presumably permanent, positions, and who have been, in other words, "immatriculated;" and, secondly, temporary workmen (*ouvriers*), who have not been regularly admitted, however secure their tenure of position. The latter are admitted to all the benefits of the fund, except that they can not obtain a life pension for themselves, or their widows, orphans, or ascendants.

As at present constituted the relief and pension fund furnishes assistance in case of temporary incapacity, freely grants medicines and medical attendance, pays burial expenses, and grants annual relief in certain cases of permanent disability. These advantages are obtained both by regular employees and irregularly engaged workmen, but the former class may also receive pensions and have pensions granted to their widows and orphans, fathers and mothers, or, where their age and term of service do not admit of a pension, they or their dependents may receive annual relief for permanent disability. The irregularly engaged workmen, those who are not "immatriculated," pay the same rates, however, as the associates.

The government of the fund in the final instance is kept in the hands of the minister. He elects not only the president, but the ten members of the commission. These hold office for four years in rotation, one-half being appointed every two years. The commission holds regular monthly meetings, but it may be convened on extraordinary occasions by its president.

The chief contributions to the fund are made by the men. The administration withholds 3 per cent of all wages not over 2.40 francs ($0.46)

per day and 4 per cent of all wages above that sum. A less considerable portion of the fund is made up of fines and occasional gifts from the Government or private individuals.

The granting of aid by the fund is subject to the most minute regulations. Thus, the physicians who must give aid to any employee furnished with an order from his immediate superior are contracted to charge a definite sum, which is specified for each particular service. This scale varies from 75 centimes (14.5 cents), in case of a visit to the physician, to 25 francs ($4.83) for the amputation of a member involving danger to life. On examining the patient the physician presents free of charge a certificate of the nature and probable cause of the injury, which certificate must be monthly renewed up to the time of the death or the full recovery of the employee.

The temporary aid to employees consists of free medical attendance and drugs and a portion of the salary. If the accident or injury is due to work performed under exceptional service the full wage is paid, otherwise it is paid on the following scale: Bachelors, widowers, and childless married men receive 50 per cent, but for each child under 13 years the widowers and married men receive an additional 5 per cent, with 75 per cent, however, as the maximum. The father and mother of the workman, if dependent upon him, and children over 13 years, who, by reason of infirmities, are permanent charges upon him, are counted as children under 13 years of age. The maximum relief is 2.50 francs ($0.48) per day for wages under 5 francs ($0.97) and 50 per cent of all wages over 5 francs ($0.97). The minimum relief is 1 franc (19.3 cents) per day, except for workmen with wages less than 1.40 francs ($0.27), for whom the minimum is 80 centimes (15.4 cents). In the event of the fatal issue of the sickness, the workman's widow receives 30 francs ($5.79) for burial expenses, and under exceptional circumstances as much as 75 francs ($14.48).

Annual relief is granted to employees who have contributed at least five years to the fund. The relief is fixed at 25 per cent for wages under 2 francs ($0.39) and 20 per cent for wages of 2 francs ($0.39) per day or over, plus 2 per cent for each year over five; but the relief can not be over 75 francs ($14.48) nor under 45 francs ($8.69) per quarter. If the employee has contributed to the fund for seven years the relief may be granted a second year. For permanent injuries, due to accidents in service, the employee receives 25 per cent of his last salary during a period as long as that in which he contributed. His percentage decreases 2 per cent per year, but may not fall below 15 per cent or 20 francs ($3.86) per quarter. The amounts and the number of grants of relief to widows and orphans depend upon the salary and the period of service of the employee.

Pensions are granted to regular employees who have been permanently injured in the execution of their duty, or who are over 60 years of age and are not sufficiently active, or who are incapacitated (not by accident) after ten years of service. They receive a portion of their salary, varying from 20 to 50 per cent, which is augmented where there are proofs of courage and extraordinary devotion by 10 per cent. A

portion of the pension reverts to the widow if the deceased had contributed for fifteen years and if the widow had already been married five years, but a woman who marries a man who is already pensioned or who is over 25 years younger than her husband can obtain no right to a pension. The pension may also be paid, under certain circumstances, to orphans under 13 years of age.

During the year 1896 the receipts of the pension and relief fund, consisting of the contributions of the members, interest on capital, etc., amounted to 2,489,154 francs ($480,406.72) and the expenses to 2,114,373 francs ($408,073.99). This left a surplus of 374,781 francs ($72,332.73), which, added to the balance at the beginning of the year, left the fund on December 31, 1896, with the large balance of 13,031,423 francs ($2,515,064.64). The following table shows the manner in which the 2,114,373 francs ($408,073.99) were expended during 1896:

EXPENDITURES OF THE PENSION AND RELIEF FUND, 1896.

Nature of expenditures.		Persons assisted.	Amount expended.
Pensions	Employees	952	$87,280.39
	Widows	2,201	125,931.15
	Orphans	137	4,047.21
	Ascendants	36	580.16
Annual relief	Employees	46	1,174.79
	Widows	286	8,047.71
	Orphans	25	359.56
Temporary relief		15,570	100,149.63
Treatment (physicians, druggists, hospitals, etc.)		.....	76,242.88
Funeral charges		.....	3,586.33
General expenses		.....	673.18
Total		.....	408,073.99

The officials and higher employees receive pensions gratuitously. This sum, which is charged to the debt account, amounted in 1846 to 1,263 francs ($243.76), in 1856 to 7,325 francs ($1,413.72), in 1866 to 72,064 francs ($13,908.35), in 1876 to 127,747 francs ($24,655.17), in 1886 to 351,731 francs ($67,884.08), and in 1896 to 675,629 francs ($130,396.40). During the 53 years from 1844 to 1896, inclusive, 8,760,775 francs ($1,690,829.58) have been spent on these pensions, and of this sum over 84 per cent was spent in the last 20 years and over 57 per cent in the last decade. The following table shows the expenditure for each year:

AMOUNT OF PENSIONS PAID TO OFFICIALS AND HIGHER EMPLOYEES OF THE BELGIAN STATE RAILWAYS, 1844 TO 1896.

Year.	Amount.	Year.	Amount.	Year.	Amount.
1844	$15.44	1863	$7,781.18	1882	$41,886.79
1845	159.42	1864	8,378.13	1883	49,833.95
1846	243.76	1865	10,329.17	1884	57,230.10
1847	254.57	1866	13,908.35	1885	59,683.32
1848	341.22	1867	15,813.65	1886	67,884.08
1849	370.56	1868	15,348.52	1887	68,298.07
1850	793.81	1869	15,129.46	1888	74,533.13
1851	1,125.38	1870	16,847.74	1889	84,460.08
1852	1,033.51	1871	17,738.05	1890	89,663.75
1853	1,028.11	1872	17,601.41	1891	93,132.15
1854	1,019.23	1873	19,730.78	1892	98,294.13
1855	918.49	1874	19,773.04	1893	102,914.93
1856	1,413.72	1875	23,465.33	1894	108,313.34
1857	4,139.66	1876	24,655.17	1895	118,697.32
1858	5,220.65	1877	27,780.61	1896	130,396.40
1859	5,360.19	1878	36,309.09		
1860	5,435.46	1879	37,280.07	Total	1,690,829.58
1861	6,156.89	1880	37,315.78		
1862	6,243.36	1881	39,149.08		

PRUSSIA.

EMPLOYMENT ON PRUSSIAN STATE RAILWAYS.

The number of *Beamten* (*a*) employed on Prussian State railways was 109,204 for the year 1896–97 as compared with 107,734 in 1895–96. This represented 3.96 employees per kilometer (6.4 per mile), but included only a portion of the labor force. In 1896–97 there were 188,262 workmen (*Arbeiter*) employed in operation and maintenance and in the workshops, which, together with the *Beamten*, made a total of 297,466 employees of all sorts, not including, however, those who were engaged in the construction and extension of the line.

The whole number of persons employed is rapidly increasing. In 1892–93 the number of workmen (*Arbeiter*) on Prussian railways was 175,578; by 1896–97 this number had risen to 188,262, an increase of 7.2 per cent in four years. This is no doubt partially due to the increase in the whole railway mileage, and to the increasing traffic upon existing lines. An additional cause is to be found in the policy of reducing hours, granting longer or more frequent holidays and rests, and in restricting the amount of work for the various classes of employees.

HOURS OF LABOR ON STATE RAILWAYS

Until 1892 there was no general regulation of the hours of labor of all employees of State railways. There had been, previous to that year, special regulations issued, but no general set of rules had been adopted. In the year 1892, however, a ministerial circular was issued as a basis for the officials in determining the length of the working day. The result of the reduction in hours was an increase in the number of men needed, and, as this increase could not be met at once, the administration was forced to limit itself to a gradual reduction, taking up one class of employees after another. This was especially necessary, as the supply of capable men was not in all cases equal to the increased demand. By the end of 1895, however, the great majority of employees were brought under the new rules, and by May 15, 1896, the ministry saw its way clear to making the rules general, and these were finally carried into execution in October, 1896. The large number of men concerned in this reorganization, and the thoroughness with which the administration went into the matter, warrants a somewhat detailed account.

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a The term *Beamten* applies to all higher officials, chiefs of bureaus, and permanent technical experts, to candidates in training or on probation for such positions, to all positions of responsibility specified in the budget, including conductors, brakemen, guards, engineers, firemen, etc., as well as to persons occupying such positions who are intended for appointment as budget employees, and finally to candidates for minor official positions who have a military record. The term *Arbeiter* includes railway servants whose work consists of manual labor requiring no previous training except that of a skilled trade, persons engaged as helpers to minor officials, and persons temporarily employed for special work, and all female employees. They are paid by the day or piece and are subject to dismissal without notice.

The underlying principles of the Prussian regulations, expressed generally, are as follows: In all responsible positions the men employed in the working of the lines are not to be occupied more than 8 hours, where the work is uninterrupted and intense. This period of work may be increased in proportion as there are more frequent periods of rest and as the work is more or less intense or continuous, the highest number of hours allowed being 14 or 16, according to the nature of the work. This maximum may not be frequently attained, however, no matter how easy or how little continuous the work is, it not being permitted to work the men this period more than once in a given period (as a week, fortnight, etc.). The work must be preceded and followed by a period of rest, which must be so arranged that it may usually be passed by the employee at his home.

The diminution in the number of hours worked has been not inconsiderable, but owing to the different methods of keeping accounts of the different periods it is difficult to show exactly how great this decrease has been. The statistics of 1897 show the number of men working 8 hours a day or less, those working from 8 to 10, from 10 to 12, from 12 to 13, from 13 to 14, from 14 to 15, and from 15 to 16 hours a day, there being no cases of work exceeding 16 hours. For 1892, however, all men employed 10 hours or less are grouped together, and also all men employed from 14 to 18 hours. But even with these data it is possible to get some idea of the extent of the reduction. Of the 109,081 men (88,577 in 1892) considered, 23.73 per cent were occupied 10 hours or less in 1897 as compared with 17.03 per cent in 1892, while only 6.06 per cent were employed over 14 hours in 1897 as compared with 15.61 per cent five years before. The principal amelioration of the condition of the employee as regards hours of labor is to be found in the abolition of the working day of over 16 hours, the decrease in the number of men employed from 12 to 14 hours, and especially of those employed from 14 to 16 hours, and the consequent increase in the number of short days. The following tables show the number of employees considered and the hours of labor per day in 1892 and in 1897, respectively:

EMPLOYEES AND HOURS OF LABOR PER DAY, PRUSSIAN STATE RAILWAYS, 1892.

Occupations.	Employees considered.	Employees working per day—									
		10 hours or less.		10 to 12 hours.		12 to 13 hours.		13 to 14 hours.		14 to 18 hours.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Flagmen	20,311	791	3.89	12,915	63.59	2,685	13.22	2,645	13.02	1,275	6.28
Switchmen	16,083	1,301	8.09	10,498	65.27	2,014	12.52	1,474	9.17	796	4.95
Station employees	9,319	1,211	13.00	5,243	56.26	1,140	12.23	926	9.94	799	8.57
Telegraph operators	2,419	1,009	41.71	1,176	48.62	100	4.13	94	3.89	40	1.65
Shunters	1,812	220	12.14	1,317	72.68	163	9.00	58	3.20	54	2.98
Baggage masters	1,315	109	8.29	1,044	79.39	67	5.10	47	3.57	48	3.65
Train staff	21,686	6,283	28.97	4,019	18.53	2,157	9.95	2,273	10.48	6,954	32.07
Locomotive staff	15,632	4,164	26.64	3,030	19.38	2,158	13.80	2,418	15.47	3,862	24.71
Total	88,577	15,088	17.03	39,242	44.30	10,484	11.84	9,935	11.22	13,828	15.61

EMPLOYEES AND HOURS OF LABOR PER DAY, PRUSSIAN STATE RAILWAYS, 1897.

Occupations.	Employees considered.	Employees working per day—													
		8 hours or less.		8 to 10 hours.		10 to 12 hours.		12 to 13 hours.		13 to 14 hours.		14 to 15 hours.		15 to 16 hours.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Flagmen	22,753	524	2.35	1,060	4.66	15,153	66.60	2,863	12.58	2,541	11.17	289	1.27	323	1.42
Switchmen	19,943	1,618	8.11	1,164	5.84	13,751	68.95	1,538	7.71	1,333	6.69	260	1.30	279	1.40
Station employees	12,111	1,294	10.68	1,534	12.67	6,784	56.01	1,152	9.51	794	6.56	339	2.80	214	1.77
Telegraph operators	2,939	997	33.92	611	20.79	1,203	40.93	73	2.49	33	1.12	13	.44	9	.31
Shunters	2,878	189	6.57	275	9.55	2,234	77.62	113	3.93	67	2.33	.....	.....	.....	.....
Baggage masters	2,002	51	2.54	247	12.34	1,644	82.12	36	1.80	24	1.20	.....	.....	.....	.....
Train staff	25,677	3,680	14.33	4,852	18.90	9,488	36.95	2,494	9.71	2,294	8.94	1,482	5.77	1,387	5.40
Locomotive staff	20,778	4,070	19.59	3,717	17.89	5,320	25.60	2,626	12.64	3,029	14.58	1,172	5.64	844	4.06
Total	109,081	12,423	11.39	13,460	12.34	55,577	50.95	10,895	9.99	10,115	9.27	3,555	3.26	3,056	2.80

The present regulations in force in regard to the hours of labor on certain railways were promulgated in the Eisenbahn-Verordnungs-Blatt for December 30, 1897. For station employees, in stations where the incoming and outgoing trains are so frequent as to allow no uninterrupted period of rest, the day's labor is not to be over 8 hours. Under other conditions the period of work may be 12 hours, and on days of change of service 14 hours. Where the traffic is exceedingly light, and there are a number of pauses, the day's work may occasionally be extended to 16 hours, including the time in which the employee is merely in readiness. Telegraph operators are to be employed a maximum of 8 hours where the work is uninterrupted, 12 to 14 hours where the telegraphic traffic is not so intense and there are sufficient pauses. The men working in the shunting yards are subject to similar provisions.

The maximum day's work for switchmen is 8 hours where there are no pauses, but it may be extended to 12 hours, according to the length and frequency of the pauses and interruptions in the work. Where there is any single period of rest of 4 hours, the day's work may be extended to 16 hours. For flagmen and signalmen on lines on which there is only day service, or at least only limited night service, the hours of labor may attain 14, and where the traffic is slight and there are a series of pauses, or one or two long ones, the time may occasionally be extended to 16 hours. Where there is a complete night service the maximum day is 13 hours (except on days of change of service, when it is 14 hours); and if the employee can not find lodgings within reasonable distance of where he works, the time spent in coming to and going from his work must be taken into account in fixing his hours.

The time schedules of the locomotive and train staff shall be so arranged that for no single month the average day's work shall exceed 11 hours, and where the conditions permit it the number of hours may

fall considerably below this maximum. For any single day the work can not exceed 16 hours, and it can reach 16 only when in the opinion of the officials the work is so light and the pauses so considerable as to preclude the possibility of overexertion on the part of the locomotive or train staff. After such a period of work (from 14 to 16 hours) a sufficiently long period of rest must be granted, which shall be arranged to take place in the home of the employee, and, when possible, between the hours of 7 p. m. and 7 a. m. The period of actual presence on the locomotive must not exceed 10 hours per day, and on shunting engines, where the work is practically uninterrupted, 8 hours must constitute the maximum day.

All employees engaged in the operation of the railways are entitled to one free day per month, and members of the locomotive and train staff, who are chiefly employed away from their homes, are entitled to two free days per month. The employees, even when they are regularly employed on Sundays, must be given the opportunity of attending divine service once every two weeks, or at the very least once every three weeks. When this is not allowed by the number of free days otherwise accorded, permission must be granted to the employee and such time must not be deducted from his remaining free time.

The chief problem in regulating the number of hours is the difficulty of determining what constitutes rest and what work. The Prussian regulations define the period of work, in the first place, as the time elapsing between two periods of rest. A period of rest is an uninterrupted period, free from work or from the necessity of holding oneself ready for work, which for all the classes of employees mentioned, except the locomotive and train staff, must be 8 hours in length, and for the locomotive and train staff must be 10 hours if they are at home and 6 hours if they are away from home. Thus, on an excursion train, if the fireman has perfect liberty from 10 a. m. to 3 p. m., this period of 5 hours (being less that 6 hours) is counted as part of his service. When, however, a rest of from 6 to 10 hours at home (which is ordinarily considered work and not rest) follows a period of work which has been preceded by a 10-hour period of rest at home, the second period is also considered rest and not work, and occasionally, on lines of feeble traffic, a period of rest at home of only 8 hours may be considered as rest (and not work) for the locomotive and train staff. The period of work is interpreted as including the time of presence of the employee before the departure and after the arrival of the train, and not merely the time spent upon the train. The other men (those not engaged in the locomotive or train service) must not be employed seven consecutive nights at night service. Free days are only to be considered as such when they follow an uninterrupted period of rest of 12 hours, and including this period amount to at least 24 hours.

HOURS OF LABOR ON PRIVATE RAILWAYS.

The privately owned railways are by no means important in Prussia, and they are so completely overshadowed by the State railways and so subject to State control and supervision that they furnish good examples neither of the advantages nor the defects of private ownership. It is not without interest, however, to compare the hours of labor upon these railways with those on the State railways—a comparison which redounds to the advantage of the State system. Of the number considered, of employees engaged directly in the exploitation of the roads, the following are the proportions, grouped according to the hours of labor per day:

PER CENT OF EMPLOYEES WORKING EACH SPECIFIED NUMBER OF HOURS PER DAY ON STATE AND ON PRIVATELY OWNED RAILWAYS, COMPARED.

Railways.	Employees considered.	Per cent of employees working per day—								
		8 hours or less.	8 to 10 hours.	10 to 12 hours.	12 to 13 hours.	13 to 14 hours.	14 to 15 hours.	15 to 16 hours.	16 to 17 hours.	17 to 18 hours.
State (a)	109,081	11.39	12.34	50.95	9.99	9.27	3.26	2.80	.....	.....
Private	2,596	4.09	5.70	29.17	17.72	12.45	11.71	12.33	3.34	3.49

a Not including the Mayence Railway district.

It is very evident that the conditions are better upon the State than upon the private railways. On the State roads 23.73 per cent work 10 hours or less, as compared with only 9.79 per cent on the private railways; and 74.68 per cent, or practically three-fourths of all employed, work 12 hours or less, as compared with only 38.96 per cent on private railways. On the other hand, while only 2.80 per cent of the State-railway employees worked over 15 hours, 19.16 per cent, or almost one-fifth of the private-railway employees, worked this excessive period. It must be observed, however, that the private railways are not fairly representative, and that the fact that most of them are small lines with feeble traffic accounts for much of the apparently excessive labor.

The proposal is now made to establish upon the private railways in Prussia the same rules in regard to the hours of labor as exist on the State railways.

FREE DAYS.

The improvement in the conditions of service of very many of the employees on Prussian railways during the last five years is also shown in the increasing number of free days or periods of rest granted to the employees. Statistics for the years 1892 and 1897 have been compared, 88,577 men being considered in the former and 109,081 men in the latter year. The total number per employee of periods of rest remained about the same, there being an average of 3.78 free periods of uninterrupted rest of 18 hours per calendar month in 1892 and 3.79 (45.5

per year) in 1897. The number of free periods granted to switchmen, flagmen, telegraph operators, shunters, and station employees increased during this period, but those of the train and locomotive staff fell off. In other words, while the stationary employees find it easier to get free days, the running (locomotive and train) staff find it increasingly difficult. Another fact which is very patent is the greater number of free Sundays allowed. In 1892 an average of 1.32 free Sundays were allowed per month, or 15.84 per year, which is equal to 30 per cent of all Sundays. In 1897 the number of free Sundays had increased to 1.71 per month, or 20.52 per year, which represents almost 40 per cent of all Sundays. The number of free Sundays now forms 45 per cent of all free days, as compared with 35 per cent in 1892.

Another favorable symptom is the increasing length of free periods granted. In 1897 none of the men received less than one-half free day, as compared with 0.72 per cent in 1892; in 1897, 0.18 per cent received one-half free day per month, as compared with 0.96 per cent in 1892; and in 1897, 8.59 per cent received one free day per month, as compared with 10.27 per cent in 1892. On the other hand, the number of employees receiving over two free days per month increased from 51.96 per cent in 1892 to 56.04 per cent in 1897. The increase took place for every grade except one (the train staff), and was especially marked for flagmen, switchmen, station employees, baggage masters, and telegraph operators.

The following table shows the differences in detail for the two years 1892 and 1897:

EMPLOYEES AND FREE PERIODS RECEIVED PER MONTH, PRUSSIAN STATE RAILWAYS, 1892 AND 1897.

Occupations.	Year.	Employees considered.	Free periods (of at least 18 hours) per calendar month.			Number of such free Sundays per employee.
			Total.	Per employee.	Number falling on Sundays.	
Flagmen	1892	20,311	43,806	2.16	30,680	1.51
	1897	22,753	52,636	2.31	39,808	1.75
Switchmen	1892	16,083	37,024	2.30	21,397	1.33
	1897	19,943	48,853	2.45	34,002	1.70
Station employees	1892	9,319	23,217	2.49	12,410	1.33
	1897	12,111	32,756	2.70	19,413	1.60
Telegraph operators	1892	2,419	7,784	3.22	3,372	1.39
	1897	2,939	11,643	3.96	5,037	1.71
Shunters	1892	1,812	5,434	3.00	2,869	1.58
	1897	2,878	8,990	3.12	5,579	1.94
Baggage masters	1892	1,315	3,387	2.58	1,927	1.47
	1897	2,002	5,191	2.59	3,920	1.96
Train staff	1892	21,686	114,863	5.30	25,164	1.16
	1897	25,677	122,964	4.79	45,427	1.77
Locomotive staff	1892	15,632	99,011	6.33	19,427	1.24
	1897	20,778	130,629	6.29	33,753	1.62
Total	1892	88,577	334,526	3.78	117,246	1.32
	1897	109,081	413,662	3.79	186,939	1.71

EMPLOYEES AND FREE PERIODS RECEIVED PER MONTH, PRUSSIAN STATE RAILWAYS, 1892 AND 1897—Concluded.

Occupations.	Year.	Number of employees who receive monthly—											
		Less than one-half free day.		One-half free day.		One free day.		One and one-half free days.		Two free days.		More than two free days.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Flagmen	1892	97	0.48	170	0.84	3,239	15.95	1,833	9.02	10,624	52.30	4,348	21.41
	1897	.....	.....	51	.22	2,581	11.34	3,388	14.89	9,387	41.26	7,346	32.29
Switchmen	1892	45	.28	158	.98	2,325	14.46	1,220	7.58	7,530	46.82	4,805	29.88
	1897	.....	.....	40	.20	2,181	10.94	2,526	12.67	8,044	40.33	7,152	35.86
Station employees	1892	285	3.06	312	3.35	1,836	19.70	873	9.37	3,292	35.32	2,721	29 20
	1897	.....	.....	109	.90	1,720	14.20	1,996	16.48	4,021	33.20	4,265	35.22
Telegraph operators	1892	84	3.47	67	2.77	397	16.41	203	8.39	642	26.54	1,026	42.42
	1897	.....	.....	.....	.....	266	9.05	391	13.31	766	26.06	1,516	51.58
Shunters	1892	41	2.26	41	2.26	247	13.63	114	6.29	574	31.68	795	43.88
	1897	.....	.....	.....	.....	261	9.07	359	12.47	948	32.94	1,310	45.52
Baggage masters	1892	32	2.43	11	.84	271	20.61	106	8.06	461	35.06	434	33.00
	1897	.....	.....	.....	.....	218	10.89	187	9.34	794	39.66	803	40.11
Train staff	1892	53	.24	9	.04	487	2.25	873	4.02	2,712	12.51	17,552	80.94
	1897	.....	.....	.....	.....	1,519	5.92	1,547	6.02	3,215	12.52	19,396	75.54
Locomotive staff	1892	1	.01	87	.56	292	1.87	310	1.98	595	3.80	14,347	91.78
	1897	.....	.....	.....	.....	619	2.98	366	1.76	449	2.16	19,344	93.10
Total	1892	638	.72	855	.96	9,094	10.27	5,532	6.25	26,430	29.84	46,028	51.96
	1897	.....	.....	200	.18	9,365	8.59	10,760	9.87	27,624	25.32	61,132	56.04

As in the number of hours worked, so in the number of free days granted, the private railways make a poorer showing than do the State. The State railways granted per employee on an average 3.79 free days per month, or 45.5 per year, the private railways only 3.05 per month, or 36.6 per year. The number of free Sundays was 1.71 per month, or 20.5 per year, on the State railways, as against 1.12 per month, or 13.4 per year, on the private railways, the percentage of free Sundays of the total number of Sundays being 40 per cent for the State and only 26 per cent for the private railways. While all employees of State railways were granted free days, 16.49 per cent of the employees on private railways were granted no free days at all, and while 56.04 per cent of the State employees had over two free days per month, only 44.18 per cent of the employees of private railways enjoyed this advantage.

WAGES.

Prussian statistics are not well adapted to the purpose of obtaining comprehensive and accurate statistics of the wages of employees upon the State railways. There are no statistics giving the number of employees in the various wage classes, and it is only from 1895–96 that the annual reports furnish statements of average wages. It is possible, however, to obtain a general idea of average wages for the period of 1888 to 1894 from the returns of the sick funds. The statistics that we do possess show a very considerable increase in the average yearly wages paid during the last decade, as shown by the following table.

AVERAGE YEARLY WAGES FOR WORKSHOP EMPLOYEES AND TRACK MEN, PRUSSIAN STATE RAILWAYS, 1888 TO 1897.

Year.	Workshop employees.	Track men.
1888	$201.94	$145.49
1889	206.82	150.25
1890	215.53	160.41
1891	224.27	165.46
1892	226.17	166.91
1893	245.64	174.55
1894	246.57	174.88
1895-96	252.14	180.88
1896-97	256.42	182.31

With the exception of these two classes, workshop employees and track men, the gross sum of 273,660,000 marks ($65,131,080) was expended during 1896–97 on all the Prussian State railway employees. This amounted to 1,339 marks ($318.68) per head, 9,925 marks per kilometer of line ($3,801.53 per mile), 803 marks per 1,000 locomotive kilometers (30.8 cents per locomotive mile), 26 marks per axle kilometer ($9.96 per axle mile), and to 26.7 per cent of the gross receipts from traffic. The estimated expenditures for 1897–98 were about 10 per cent greater, and a still further increase was provided for in the budget of 1898–99, the annual average wages of employees anticipated for 1898–99 being 1,408 marks ($335.10) as compared with 1,339 marks ($318.68) in 1896–97, and 1,330 marks ($316.54) in 1895–96. These averages, however, are too inclusive and general to give a definite idea of the real state of wages.

The increase in wages is indicated in a very general way by the increase of the scale of wages between 1888–89 and 1897–98. The statistics give the lowest, the highest, and the average wage, but the average wage considered is not the true average of all wages paid in that class, but merely the arithmetical mean between the highest and lowest wage, and is therefore useless and may be discarded. The comparative valuelessness of such wage statistics may be shown by the fact that the average rate of wages may decline while the minimum and maximum wage may both increase. While it is, therefore, evident from other sources that the wages have quite considerably increased on the Prussian State railways, the following figures are shown less in support of the statement than as showing the higher wages which may be now attained than under the old régime and the rising of the minimum wage offered to the younger and less efficient workers. The general tendency may be traced in over forty classes of employment, but only three or four will be mentioned in this connection.

The workshop foremen commence now as in 1888–89 with 2,100 marks ($499.80) per year, but the maximum wages that they may obtain have been raised from 3,200 marks ($761.60) in 1888–89 to 3,600 marks ($856.80) in 1890–91, and to 4,200 marks ($999.60) in 1897–98. The station masters of the first class now begin with 2,400 marks

($571.20) instead of 2,100 marks ($499.80), and may attain to 4,200 marks ($999.60), instead of 3,200 marks ($761.60); those of the second class still begin with 1,800 marks ($428.40), but now reach 3,000 marks ($714), instead of 2,100 marks ($499.80). The locomotive engineers begin now as before with 1,200 marks ($285.60), but may attain to 2,200 marks ($523.60), instead of 1,800 marks ($428.40). The initial wages of the firemen have increased from 900 to 1,000 marks ($214.20 to $238), their maximum wages from 1,200 to 1,500 marks ($285.60 to $357); conductors who had a minimum wage of 780 and 690 marks ($185.64 and $164.22), respectively, now commence with 800 marks ($190.40), while the highest salary they may obtain has been increased from 990 to 1,200 marks ($235.62 to $285.60); and the wages of the night watchmen which formerly were uniformly 600 marks ($142.80), range since 1890 between 700 and 900 marks ($166.60 and $214.20).

The increase in wages and salaries took place largely in the years 1890–91 and 1897–98. In connection with the increase in the former year, the administration adopted the plan of granting "Stellenzulagen," which are supplementary payments to the employees in places where the work is peculiarly difficult or responsible. These "Stellenzulagen" are of growing importance, the budget of 1898–99 calling for an extra credit of 2,500,000 marks ($595,000) for this item alone. The wages are also supplemented by so-called "Ortszulagen," which are granted in consideration of the greater cost of living in and near the larger cities and towns.

The Prussian railways publish the average daily wages for a number of classes of employees in the intermediate and lower ranks of the service. These statistics are obtained by dividing the total amount of wages paid to a certain group of employees by the total number of single days of work obtained from the group, overtime being converted into days of work. These statistics, which take into account neither the contributions of the employees to the pension funds nor the payments by the funds to the employees, show the average scale of wages to be comparatively low in Prussia. In 1896–97 the pay for 63,799,517 days of work amounted to 153,694,077 marks ($36,579,190.33), which equals 2.41 marks (57.3 cents) per day. These wages differ, however, very greatly in the various departments, varying with the amount of skill and intelligence required for the work. The highest wages are received by the technical clerks, whose wages average 5.78 marks ($1.38) per day; the assistant draftsmen receive 4.13 marks ($0.98). The wages range highest in the workshops and lowest for the purely clerical work. Thus, the wages of the workshop foremen average 4.13 marks ($0.98) per day, that of the workshop employees 3.15 marks ($0.75) by the time and 4.03 marks ($0.96) by the piece, that of the workshop mechanics (with regular apprenticeship) 2.61 marks ($0.62) by the time and 3.57 marks ($0.85) by the piece, while other workshop mechanics receive 2.44 marks ($0.58) by the time and 3.32 marks ($0.79) by the piece. It is interesting to note how much better the piecework is paid for than work by the time.

GENERAL CONDITIONS OF EMPLOYMENT.

Candidates seeking employment either as track men, station hands, in the workshop or gas works, or in the telegraphic or administrative departments of the Prussian State railways, must have certain definite qualifications. They must be healthy, sound in body, with good sight and hearing, with a certain amount of schooling, and of good character. Such candidates must show that they have sufficient cause for leaving their former employment, and that they have performed all the obligations connected with it, and they must also show that they have been "respectable," and that they have not been "connected with any revolutionary associations or movements." (*a*) The physical condition of the applicant is frequently passed upon by a railway physician.

The workman must perform all assigned tasks in a thorough manner, even when the work is not that for which he was engaged. He must not, without special permission, perform any other work during the day, and may not leave the room until the day is done. He must give a receipt for overalls, tools, implements, materials, etc., furnished by the administration, and must return them, whether useful or not. Enforced absence, due to sickness, must be brought to the notice of the superior officials as soon as possible, and permission must be obtained for any leave of absence. He must work beyond the prescribed period, and at unusual hours, if necessary. He is responsible to the administration for any loss or injury to the tools or other articles in his care or possession.

All workmen are compelled to join the sick, relief, and pension funds established by the administration, to obey the provisions of the funds, and to consent to the deductions from their wages for this purpose. When there is no provision as to the termination of the labor contract it may be terminated during the first four weeks at any time, and subsequently after a fortnight's notice. If any notice is agreed upon it must be the same from both parties.

An engaged workman may be discharged without notice, and immediately, if his recommendations or testimonials have been forged, if he is proven guilty of peculation or embezzlement or of leading an immoral life, if after warning he is careless with fire, if he leaves his work, if he grossly insults or strikes his superiors or members of their families, or if he willfully destroys the property of the administration or of a fellow-workman; but such a dismissal must take place within a week after the superior has been notified of the occurrence.

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a This provision in Art. 1 of the Gemeinsame Bestimmungen für die Arbeiter aller Dienstzweige der Preussischen Staatseisenbahnverwaltung, Ausgabe 1898, is evidently directed against the Social Democracy and other less important revolutionary parties. A similar provision (Art. 2) forbids accepted workmen from taking part in such organizations, and a section in Art. 3 seems to aim at the same party. An energetic, radical trade union, such as the Amalgamated Society of Railway Servants in England, would probably fall under this category.

One of the more important qualifications demanded of workmen and superior employees alike is sobriety. The Prussian railway administration makes no attempt to prevent the sale of alcoholic liquors to its employees, but is particularly careful to prevent drunkenness, both during the term of service and during the period of rest and pauses that intervene. The privilege is given to the train staff and to the station employees to warm coffee and prepare food, and quarters for the workmen during the pauses in their work are provided in various parts of the stations. One of the chief purposes of this is to prevent, as far as possible, the undue use of alcohol, and to reduce the temptation to drink immoderately. Especially in saloons which are near the station, but far removed from the city, and which are dependent largely on the trade of the railway employees, is it necessary to limit abuses. Such saloons, as well as the station quarters themselves, are subject to unexpected visits, and in case of misuse of the privilege granted to them, legal proceedings (*Konzessionsentziehungsverfahren*) are instituted and the license is withdrawn. A special abuse against which the administration aims is the selling of liquors on credit to railway employees.

SAXONY.

ECONOMY OF THE RAILWAY STAFF.

During the year 1897 there were 12,817 *Beamten* employed on Saxon railways. Of these 578, or 4.51 per cent, were employed in the general administration; 2,360, or 18.41 per cent, in the maintenance-of-way (*Bahnunterhaltung*) department; 9,527, or 74.33 per cent, in the traffic (*Transportverwaltung*) department; 302, or 2.36 per cent, in the workshops, while the remaining 50, or 0.39 per cent, were employed in miscellaneous work belonging to the general direction of the railways. The number of men employed has increased quite steadily with the increase in the length of line and the growth of traffic, but with the years there has been a gradual shifting from one department to another, or rather a relatively more rapid growth in one branch of the traffic than in others. Thus, during the last 12 years the traffic department has grown more rapidly than the maintenance-of-way department. In 1885, 23.82 per cent were employed in the maintenance of way, as compared with 18.41 per cent in 1897, while the proportion of those employed in the traffic department increased from 70.21 to 74.33 per cent during the same period. The traffic department is divided in Saxony into the station, the telegraphic, and the locomotive and train service, 40.58 per cent of all the employees being devoted to the first, 0.37 per cent to the second, and 33.38 per cent to the third branch of the department.

If we trace the growth in the number of men employed during the last two decades, we find a better and more complete utilization of the labor force to-day than prevailed 10 or 20 years ago. While the number of men employed in each department of the service has increased, the amount of work to be done has increased to a still greater

extent. This does not signify that the individual employees have longer hours or that they are harder worked, but simply that with the increase of the traffic and with the mechanical improvements that have rendered this increase possible, a smaller number of men can perform the work that formerly required a larger force. Thus, in 1877 there were 10 men employed in the maintenance of way for every 9.1 miles of track; while in 1897 an average of 14.4 miles of track (including double track, sidings, etc.) was maintained by 10 men. In 1877 there was for each person employed on the locomotives a daily run (including shunting work) of about 33.4 miles, while in 1897 there was a daily run of 40 miles for locomotives employed. The number of employees per any given amount of locomotive work is much more constant, however, than the number employed on the trains per car mile or unit of work done, and with the increase in the size of freight trains we find in Saxony, as elsewhere, a very great economy of the labor force used. In 1877 there were 584 axle miles for every day's work of the men employed on the trains (conductors, brakemen, etc., but not including locomotive staff). In 1897 the number of axle miles run daily had increased to 792 per person. The number of station employees has increased in approximately the same ratio as the railway mileage, but the number employed per station has decreased despite the increase in the traffic.

The table following gives the average miles of track maintained, locomotive miles, axle miles, and miles of railway per employee of the maintenance of way, locomotive, train, and station services, respectively, for each year from 1877 to 1897. The table shows the economy effected in the disposition and utilization of the railway employees during this period.

MILES PER EMPLOYEE IN MAINTENANCE OF WAY, LOCOMOTIVE, TRAIN, AND STATION SERVICES, SAXON RAILWAYS, 1877 TO 1897.

Year.	Yearly average per employee—			
	In the maintenance of way (miles of railway.)	In the locomotive service (locomotive miles).	In the train, not including locomotive, service (axle miles).	In the station service (miles of railway).
1877	0.911	12,051	210,447	1.056
1878	.940	11,937	204,018	.994
1879	1.010	12,017	203,022	.994
1880	1.061	12,325	218,434	.932
1881	1.103	12,582	222,428	.932
1882	1.136	12,699	234,805	.932
1883	1.191	12,851	234,567	.870
1884	1.204	12,708	236,059	.870
1885	1.225	13,158	243,221	.870
1886	1.242	13,107	243,638	.932
1887	1.281	13,775	255,028	.870
1888	1.311	13,839	257,249	.870
1889	1.332	14,759	273,496	.870
1890	1.411	14,578	267,299	.870
1891	1.419	15,286	264,451	.870
1892	1.395	13,968	250,196	.994
1893	1.422	14,426	260,622	1.056
1894	1.411	13,896	245,504	1.118
1895	1.433	14,295	254,569	1.056
1896	1.420	13,777	271,170	1.118
1897	1.438	14,431	285,421	1.056

HOURS OF LABOR.

The hours of labor per day on Saxon railways are as a rule rather long. Of a total of 36,713 men, including both *Beamten* and workmen (*Arbeiter*), 13,308, or over 36 per cent, work over 12 hours; 8,209, or over 22 per cent, work over 13 hours; 5,773, or 16 per cent, work over 14 hours; and 4,255, or over 11 per cent, work over 15 hours. Usually the amount of time worked differs not with the kind of employment, being smallest where the workmen are grouped together, and greatest where the work is easiest or where there are long intermissions. In this respect the men employed in the workshops and the offices are favorably situated. Of 3,976 workshop employees, 3,889, or over 97 per cent, work 10 hours or less, and only 16, or less than one-half of 1 per cent, work over 12 hours. The men employed in the offices are even more fortunate in point of time. Of 1,915 so employed, 1,400, or 73 per cent, are occupied 8 hours or less; 1,805, or 94 per cent, 10 hours or less; while only 10 men, or one-half of 1 per cent, are employed more than 12 hours. The station hands work much longer hours. Of these, less than 6 per cent work 10 hours or less; 1,484, or 37 per cent, work over 12 hours; 866, or 21 per cent, work over 13 hours; 527, or 13 per cent, work over 14 hours; and 401, or 10 per cent, work over 15 hours. But the most disadvantageously situated in this regard are the men employed in the surveillance of the track and in the train and locomotive service. Of the 2,220 track men employed in the surveillance of the road, only 2 per cent work 10 hours or less, while 1,323, or almost three-fifths of the whole number, are employed over 15 hours. In the locomotive service two-thirds of the men are employed over 12 hours, one-half of them over 13 hours, two-fifths over 14 hours, while almost three-tenths are employed over 15 hours per day.

These figures, which are for the month of June, 1897, are inclusive of pauses, which for the locomotive and train service sometimes included intermissions which may be 4 hours, or even more, in length, and in the case of the locomotive staff may occasionally amount to 10 hours a day. The very long hours are, moreover, not to be considered as the regular day's service of any group of men.

If, for example, there are 14 men employed at a police station who work 10 hours a day except on 2 days, when they work 12 hours, five-sevenths of the 14, or 10 men, are counted as working 10 hours, and two-sevenths, or 4 men, as working 13 hours, although no one of the 14 men works 13 hours continuously. The long hours are partly to be accounted for in this way and partly to the pauses, which might be deducted in order to get the actual amount of real work. The statistics given also include the midday meal when less than an hour is granted for that purpose. When more than an hour is allowed, the time is deducted from the length of the working day. It must also be remembered that the excessively long hours usually take place on lines of feeble traffic, where relief is difficult and the work comparatively easy, so that the

overwork is not so excessive or so wearing as might appear from the statistics. The following table, showing employees and hours of labor per day, has been taken from the latest available report (1897) on Saxon railways:

EMPLOYEES AND HOURS OF LABOR PER DAY ON SAXON RAILWAYS, 1897.

Occupations.	Employees	Employees whose hours of labor per day were—						
		8 or less.	8 to 10.	10 to 12.	12 to 13.	13 to 14.	14 to 15.	Over 15.
Track men	2,220	28	20	348	101	124	276	1,323
Switchmen	3,320	81	127	1,610	499	411	262	330
Conductors	326	16	51	150	46	29	10	24
Outside station employees	1,863	73	391	658	255	255	112	119
Freight-forwarding employees	2,839	22	1,175	1,086	290	148	51	67
Station hands	4,074	16	215	2,359	618	339	126	401
Freight-station workmen	1,765	10	97	649	495	313	125	76
Train staff	4,039	150	671	1,052	455	509	252	950
Car examiners	201	1	12	127	21	6	9	25
Locomotive staff	2,129	161	188	362	368	203	224	623
Machine hands in stations	990	47	146	701	25	32	7	32
Office hands	1,915	1,400	405	100	8	2	.....	.....
Workshop and store hands	346	3	259	44	8	9	23	.....
Workshop employees	3,976	.....	3,889	71	16	.....	.....	.....
Workmen in maintenance of track and telegraph	6,710	3	357	4,074	1,894	56	41	285
Total	36,713	2,011	8,003	13,391	5,099	2,436	1,518	4,255

OVERTIME, LEAVE OF ABSENCE, SICKNESS, FREE DAYS, ETC.

As a rule workmen and assistants working overtime at their regular employment are not paid extra for the time so worked. The reason for this is that on Sundays and holidays, when they work for a few hours only and are often not obliged to work at all, but merely hold themselves ready for work, they still receive their full pay without deduction. Another reason assigned is that they receive wages for the days that are granted to them free. An exception, however, is made in the case of the track men (*Streckenarbeiter*), who receive pay for overtime. The track men work in summer, from March to October, inclusive, 12 hours per day—from 6 a. m. to 6 p. m.—with half an hour each for the morning and afternoon meals and an hour for the noonday meal. In winter the work is 10 hours in length, from 7 a. m. to 5 p. m., with pauses which are considerably diminished during the very short days from December 1 to January 15. For every hour above the ordinary working day the track men receive extra pay at the rate of one-tenth of a day's wage (including the basic and supplementary wages) per hour of overtime worked. In reckoning overtime fractions of an hour are not considered. Anything less than 30 minutes is disregarded and 30 minutes or more are counted as a full hour.

The office and station assistants receive full wages during the first few days of absence on account of sickness or leave of absence for the performance of military duty, and this is true of a number of the men employed by the week. If a sick allowance is made during these days from the sick fund its amount is deducted from the wage. In cases of accident or sickness the employee is counted as having worked the full day if he has been present during part of the time, and he is also counted present on the days when he is called out for military

inspection if he has worked one-half of the day. This is also the case where the employee is called upon to take an examination for any branch of the service, but the general rule, with these exceptions, is to pay wages only when the employee has actually worked. When the employee, however, has rendered a quarter of a year's faultless service he may be granted three days without any deduction from his wages. Whether or not such free days shall be granted, and, if so, at what time, depends in each case upon the peculiar conditions of time and place; but, so far as possible, general rules are worked out so as to allow the men to know beforehand when and how long they will be free. Free days are also granted to the pieceworkers among the machine hands, on a basis which represents, as nearly as possible, the daily earnings of this class.

The principle underlying the payment of workmen on Saxon railways is that wages should increase with the length of the service and also with the cost of living at the place or station in which the workman is employed. The system starts with an initial or basic wage (*Grundlohn*), which is paid to the workmen during the first year of their service. All the stations in the Kingdom are divided into six groups, lettered A, B, C, D, E, and F, respectively. Group A includes the small stations in the country, where living is quite cheap; Group B includes larger or dearer places; Group C, still larger; and so on, successively, until we come to Group F, which includes the cities and large towns of the Kingdom. The basic wage is larger in B than in A, larger in C than in B, and so on until F, the wage increasing usually 10 pfennigs (2.4 cents) per day, or 50 pfennigs (11.9 cents) per week, with each new group. If the basic wage is 2 marks (47.6 cents) in A, it will thus be 2.10 marks (50 cents) in B and 2.50 marks (59.5 cents) in F. This basic wage also augments in a regular arithmetical progression with the time of service, there being a regular increase every two or three, and even every five years, along the whole line of 10 or 20 pfennigs (2.4 or 4.8 cents) a day, or 50 pfennigs (11.9 cents) per week.

The following table, showing the wages of ordinary day laborers on Saxon railways, illustrates the principle of progression:

WAGES PER DAY OF ORDINARY LABORERS ON SAXON RAILWAYS.

Year of service.	Group.											
	A.		B.		C.		D.		E.		F.	
	Marks.	Cts.	Marks.	Cts.	Marks.	Cts.	Marks.	Cts.	Marks.	Cts.	Marks.	Cts.
1st	1.80	43	1.90	45	2.00	48	2.10	50	2.20	52	2.30	55
2d and 3d	1.90	45	2.00	48	2.10	50	2.20	52	2.30	55	2.40	57
4th and 5th	2.00	48	2.10	50	2.20	52	2.30	55	2.40	57	2.50	60
6th and 7th	2.10	50	2.20	52	2.30	55	2.40	57	2.50	60	2.60	62
8th, 9th, and 10th	2.20	52	2.30	55	2.40	57	2.50	60	2.60	62	2.70	64
After the 11th	2.30	55	2.40	57	2.50	60	2.60	62	2.70	64	2.80	67
After the 21st	2.40	57	2.50	60	2.60	62	2.70	64	2.80	67	2.90	69
After the 26th	2.50	60	2.60	62	2.70	64	2.80	67	2.90	69	3.00	71

It was found impossible to obtain a classified wage list for Saxon railways. Statistics on this subject have not been published, and nothing more than the maximum and minimum wages can be obtained.

To take an example from the budget for the coming year (1898-99): The 921 locomotive engineers employed are divided into six classes, receiving 1,860, 2,040, 2,220, 2,400, 2,580, and 2,760 marks ($442.68, $485.52, $528.36, $571.20, $614.04, and $656.88) per year, respectively, but the budget does not state how many are in receipt of each salary. The wages increase 180 marks ($42.84) for each advance, and these advances are made once in two years. For most of the better positions the salaries are advanced every three or every four years. But even the fixed salary given in the budget does not represent the true wage, as there are a number of minor sources of income.

Those living in a foreign country (Austria) receive a "foreign supplementary wage" (*Auslandszulage*). The locomotive employees also receive a distance premium of 0.7 pfennig per kilometer (0.27 cent per mile) in lieu of the former coal and oil premiums, and this averages about 380 marks ($90.44) per year—a large addition to their wages.

In the absence of more satisfactory materials, the general scale of wages may be obtained from the official reports to the budgets, and an average of the general daily wage may also be obtained by dividing the total amount paid in each department by the number of days worked. The following is the result obtained by the latter process, on the basis of 1 mark as 24 cents:

The average daily wage of the workmen on Saxon railways ranges from about 60 to 70 cents, except for those employed in the workshops, where the average pay is almost $1 per day. If all the days of work performed in each department are considered, we find the average wage for a day's work amounting to 56.2 cents for the repair of the roadbed, 60 cents for freight transportation and for supervision of the track, 61.4 cents for the train service (conductors, brakemen, etc.) as well as for the general station service, 66.7 cents per day for the locomotive service (enginemen, firemen, etc.), and 69.6 cents for the workmen employed in the general administration. As elsewhere, the wages are the highest in the workshops, the average amount paid for a day's work amounting in 1897 to 96 cents. Of the men so employed about three-fourths are paid by the piece, and it is these men who receive the highest wages, receiving on an average 105.6 cents per day in lieu of 66.7 cents received by the workshop employees who are paid by the day.

GENERAL CONDITIONS OF THE SERVICE

Before entering upon his duty each *Beamter* must swear obedience to the King and to the constitution, and to the particular provisions applying to his position. He is held strictly accountable for his conduct, but must obey the orders of his superior, even when they are in apparent conflict with the rules. He must be moral and, above all, temperate, punctual, and polite, and may accept presents only with the consent of his superiors. An unexcused absence from duty is punished by loss of income and also by further penalties, and no *Beamter*

may live in any other place than that in which he works, nor change his place of residence without the knowledge and consent of his superiors. Nor can any *Beamter* in active service accept any secondary position or occupation or conduct any business with which a remuneration is directly or indirectly connected; neither can his wife nor any other person in his household conduct a business for which special license or permission is necessary without the consent of his superiors, and this consent may be subsequently withdrawn.

Where a *Beamter* neglects his duties or acts, either in or out of service, in a manner unworthy of his position, he is subject to punishment. There are three forms of penalty—reprimands, fines, and dismissal from service; but a reprimand may be combined with a fine. The penalty depends upon the gravity of the offense, but the employee may be dismissed not only when he has violated the rules of duty but when his financial means are in such a state that he can not live in the manner demanded by his position.

When proceedings are instituted against a *Beamter* he is given the opportunity of defending himself, and only in the absence of a legitimate excuse is the accused fined. The fines vary with the gravity of the offense and with the position of the employee, and may in exceptional cases reach a month's loss of income with a maximum of 150 marks ($35.70), but the average fine is only a few marks. The dismissal from service can only take place after a hearing of the case before the Disziplinarkammer, and in case of an adverse decision the employee may apply within ten days to the tribunal of final resort for such cases, the Disziplinarhof. Where *Beamten* have not yet served two years, and in consequence have appointments which, not being subject to the law of 1835, are capable of being terminated, the dismissal may take place directly. This process may also take place against such employees as are engaged under special conditions, especially in the case of general incapacity, bad behavior, or drunkenness. Discharged employees have no right to salary, title, or pension; but in cases of specially indigent employees an annual pension may be gratuitously given; this pension, however, may not exceed one-half of what it would have been had the employee been honorably discharged. When an employee is prosecuted for a crime involving the loss of civil rights (right to hold public office, etc.), or when a charge is made involving the loss of position, he is temporarily suspended. During such suspension a portion of his income is withheld, but is returned to him subsequently if he is acquitted.

The conditions governing the workmen (*Arbeiter*) who are not included in the budget and are not State officials are much more simple. Their position is not so secure, they can not lay claim to the rights of the *Beamten*, and their admission into the service or dismissal from it takes place in a simpler and more summary manner. An account of the general conditions under which their service is performed will thus supplement the former account of the regulations to which the *Beamten* are subjected. The inferior clerks, for example, are accepted on trial and with no assurance of continued employment. They must

have an education approximating that of a high-school education in this country, and must be between the ages of 17 and 25 years. If the candidate has not had this training he must show an equal amount of knowledge, or must pass an examination in writing, arithmetic, geography (especially that of Germany and the neighboring countries), correspondence, etc., and must show a satisfactory financial position. His admission into the service is preceded by his taking the oath by means of a hand shake, and he then receives a daily wage, which is raised from time to time until he has completed his period of probation. However, he may not receive over 2.50 marks (60 cents) a day, except by the special consent of the administration. The period of probation lasts from one year in the most favorable cases to over three years where the education has been defective; but before he can be promoted to a higher position he must pass a written and an oral examination, the former of which must not exceed four nor the latter two hours in length.

These workmen are expected to be present, not only during the usual period of work, but whenever extra attendance is rendered necessary, and in this latter case they have no claim to special remuneration. The settlement of questions pertaining to the pay for overwork, extra pay for piecework, etc., is left to the administration. An extra remuneration, however, is especially provided in cases of employment in any other than the usual place. The termination of the contract of service may follow a fortnight's notice on either side.

RELIEF FUND FOR BEAMTEN.

The most important insurance of Saxon railway employees was that of the relief fund for *Beamten* (*Beamten-Unterstuetzungskasse*). This fund was instituted on October 1, 1854, with a constitution ratified by the ministry of finance (which has been frequently modified since), the management of the fund being placed in the hands of the general director of State railways. Its purpose was to provide all such employees of Saxon State railways, or of those private railways administered by the State, who were not at that time State officials, with assistance. This assistance consisted in a payment to the *Beamten* upon their becoming unfit for the service, or to their widows and children in case of death. The fund was chiefly supported by contributions from the State treasury, from interest on capital, and from the men; but there were a number of secondary sources of income, such as fines, unclaimed articles found on the railways, receipts from platform tickets, gifts, donations, etc.

The number of members increased from 1,633 in 1855 to 12,823 in 1895. The number of persons in receipt of assistance increased much more rapidly than the membership. In 1855 there were for every 100 employees in the fund 6.9 persons receiving aid; in 1860, 13.2; in 1865, 18.4; in 1870, 20.9; in 1875, 22.4; in 1880, 28.9; in 1885, 43; in 1890, 50.3, and in 1895, 51.4 persons. Of the total number in 1895 receiving aid, 1,519, or 23 per cent, were employees, 2,883, or 44 per cent, widows, and 2,191, or 33 per cent, children. The expenditures have therefore

naturally increased both absolutely and relatively to the membership. In 1855 the expenditure amounted to 3.2 marks ($0.76) per member; in 1865, to 10.5 marks ($2.50); in 1875, to 31.8 marks ($7.57); in 1885, to 91.5 marks ($21.78), and in 1895, to 163.8 marks ($38.98). The receipts more than kept up with the expenditures until 1888, when there was a balance of 8,920,165 marks ($2,122,999), but from 1888 to 1895 the deficits were more frequent than the surpluses and the balance fell slightly. The increasing receipts, however, have, during the last thirty years, come progressively less from the employees themselves. In 1865 the men contributed 70,000 marks ($16,660) and the administration 30,000 marks ($7,140); in 1875 the contributions were 200,000 and 181,000 marks ($47,600 and $43,078); in 1885, 346,000 and 430,000 marks ($82,348 and $102,340), while by 1895 the employees had ceased to contribute and the administration contributed 1,612,000 marks ($383,656).

The organization maintained itself for over forty years, until on January 1, 1896, when all the members of the fund were made State officials and the fund was therewith dissolved. The following table gives the history of the fund in statistical form:

STATISTICS OF THE SAXON RAILWAY RELIEF FUND FOR BEAMTEN, 1854 TO 1895.

Year.	Receipts.	Expenditures.	Surplus.	Accumulated surplus at end of year.	Members.	Persons receiving aid.		
						Employees.	Widows.	Children.
1854	.....	.....	.....	$38,655	.....	.....	.....	.....
1855	$11,585	$1,225	$10,360	49,015	1,633	3	37	73
1856	17,148	1,568	15,580	64,595	1,693	4	43	85
1857	13,723	1,477	12,246	76,841	1,754	11	54	95
1858	19,332	1,887	17,445	94,286	2,045	14	69	111
1859	19,079	2,870	16,209	110,495	2,283	18	90	122
1860	19,926	7,300	12,626	123,121	2,266	23	113	163
1861	23,890	4,819	19,071	142,192	2,282	26	155	243
1862	23,141	5,296	17,845	160,037	2,379	30	149	231
1863	22,763	6,939	15,824	175,861	2,471	38	173	281
1864	26,210	7,377	18,833	194,694	2,503	45	187	306
1865	31,509	7,213	24,296	218,990	2,893	46	193	294
1866	34,618	8,269	26,349	245,339	3,297	48	213	299
1867	35,665	16,022	19,643	264,982	3,279	61	231	282
1868	47,086	10,983	36,103	301,085	3,508	71	275	334
1869	47,643	13,661	33,982	335,067	4,386	90	313	376
1870	58,404	16,489	41,915	376,982	4,418	103	368	453
1871	57,655	18,776	38,879	415,861	4,505	111	419	496
1872	72,391	21,314	51,077	466,938	5,341	117	459	523
1873	72,378	27,177	45,201	512,139	5,682	136	507	593
1874	170,044	42,885	127,159	639,298	6,327	162	556	668
1875	117,374	50,362	67,012	706,310	6,644	189	607	691
1876	172,568	58,823	113,745	820,055	7,271	233	662	754
1877	395,993	70,602	325,391	1,145,446	8,382	264	749	820
1878	453,914	95,406	358,508	1,503,954	9,511	336	866	970
1879	209,858	102,195	107,663	1,611,617	9,480	399	961	1,070
1880	192,515	117,462	75,053	1,686,670	9,390	474	1,075	1,167
1881	193,474	137,297	56,177	1,742,847	9,154	520	1,211	1,331
1882	239,969	147,561	92,408	1,835,255	9,132	556	1,321	1,391
1883	219,244	165,577	53,667	1,888,922	9,118	625	1,450	1,468
1884	260,351	184,155	76,196	1,965,118	9,268	668	1,559	1,562
1885	253,036	205,126	47,910	2,013,028	9,421	760	1,677	1,615
1886	283,518	232,399	51,119	2,064,147	9,575	842	1,782	1,621
1887	279,390	252,617	26,773	2,090,920	9,713	922	1,903	1,658
1888	302,438	270,359	32,079	2,122,999	9,937	1,005	1,993	1,717
1889	275,777	290,850	*a* 15,073	2,107,926	10,124	1,075	2,109	1,827
1890	339,536	315,033	24,503	2,132,429	10,530	1,140	2,239	1,914
1891	331,504	345,032	*a* 13,528	2,118,901	10,810	1,241	2,337	1,934
1892	426,807	405,795	21,012	2,139,913	11,660	1,277	2,478	1,980
1893	438,173	440,038	*a* 1,865	2,138,048	12,194	1,370	2,620	2,063
1894	449,528	471,676	*a* 22,148	2,115,899	12,530	1,436	2,741	2,192
1895	453,249	499,785	*a* 46,536	2,069,363	12,823	1,519	2,883	2,191

a Deficit.

PENSION AND SICK FUNDS.

The pension fund for Saxon railway workmen (*Arbeiterpensionskasse*) was inaugurated on July 1, 1888, for the granting of pensions to the workmen and their surviving dependents. The fund owed its origin to an order of the Royal Saxon ministry of finance of June 20, 1888; but on November 5, 1890, it changed its character in order to conform to the Imperial compulsory age and disability insurance law (*Invaliditäts- und Altersversicherung-Gesetz*), which went into operation on January 1, 1891.

The principal consequence of this adaptation of the Saxon institution to the provisions of the German law was to divide the fund into two parts. Fund A provides insurance in complete accordance with the demands of the law, while Fund B goes further and provides a greater measure of insurance and aid. The membership of Fund A is naturally larger than that of B. All workmen and working women employed by the State railways, either in the construction or operation of railways, and all assistant workmen, are permitted and compelled to join Fund A, provided they are at least 16 years of age and are not obtaining a regular annual income of over 2,000 marks ($476). To Fund B, however, only those employees are admitted who have satisfied their military duty, or have been freed from it, who have had at least one year's trial on the railway, and who are not exclusively engaged on purely exceptional or temporary work. Female employees may be admitted to Fund B only after a year's service, and only if they are unmarried or widowed, and, as widows, are not drawing a pension from any State fund. Female employees, however, are only permitted and not, like male employees, compelled to join, and the privilege lapses three months after the year of trial comes to an end. The employees who are forced out of Fund A by the fact of their receiving over 2,000 marks ($476) are compelled to enter Fund B, unless they become *Beamten*, who are not eligible.

The operation of Fund A furnishes little of special interest to those acquainted with the Imperial insurance system in Germany. According to the regulations of the fund the members are divided into four wage classes, as follows: Class I, under 350 marks ($83.30) per year (27.6 cents per day); Class II, from 350 to 550 marks ($83.30 to $130.90) per year (27.6 to 43.6 cents per day); Class III, from 550 to 850 marks ($130.90 to $202.30) per year (43.6 to 67.4 cents per day); Class IV, over 850 marks ($202.30) per year (67.4 cents per day).

The amounts of the weekly contributions are: 14 pfennigs (3.3 cents) for Class I; 20 pfennigs (4.8 cents) for Class II; 24 pfennigs (5.7 cents) for Class III; 30 pfennigs (7.1 cents) for Class IV. This contribution amounts, roughly, to something less than one-fiftieth of the weekly wages, involving, therefore, no onerous sacrifice, the average contribution summing up to about 6.40 marks ($1.52) per year. The administration furnishes a sum equal to the contributions of the members, according to the provisions of the Imperial law.

Up to the present time the expenditures of the fund, although increasing from 18,803 marks ($4,475.11) in 1891 to 36,833 marks

($8,766.25) in 1895, have been much less than the income. The members, who increased in number during this time from 21,915 to 24,019, contributed 138,924 marks ($33,063.91) in 1891 and 153,527 marks ($36,539.43) in 1895, and the total income, including the contributions of the administration, the interest on capital, presents, contributions, and disciplinary fines, increased from 278,427 marks ($66,265.63) to 347,692 marks ($82,750.70). The balance in the treasury (at the current rate of exchange) was 260,706 marks ($62,048.03) in 1891, 533,099 marks ($126,877.53) in 1892, 819,158 marks ($194,959.60) in 1893, 1,159,347 marks ($275,924.59) in 1894, and 1,493,186 marks ($355,378.27) in 1895.

The provisions for Fund B, which are not founded in conformity with the Imperial law, are considerably more generous and far-reaching than those of Fund A. The members are divided into five classes: Class II (corresponding to Class I and II of Fund A), wages under 1.83 marks (43.6 cents) per day; Class III (as in Fund A), wages from 1.83 to 2.83 marks (43.6 to 67.4 cents) per day; Class IV, wages from 2.83 to 3.50 marks (67.4 to 83.3 cents) per day; Class IVa, wages from 3.50 to 4.00 marks (83.3 to 95.2 cents) per day; Class IVb, wages over 4.00 marks (95.2 cents) per day. The weekly payments of members of the pension fund are as follows:

WEEKLY PAYMENTS OF MEMBERS OF THE SAXON RAILWAY WORKMEN'S PENSION FUND.

Class.	Men.	Women.
II	28 pfennigs (6.7 cents)	10 pfennigs (2.4 cents).
III	42 pfennigs (10.0 cents)	16 pfennigs (3.8 cents).
IV	56 pfennigs (13.3 cents)	20 pfennigs (4.8 cents).
IVa	66 pfennigs (15.7 cents)	24 pfennigs (5.7 cents).
IVb	76 pfennigs (18.0 cents)	28 pfennigs (6.7 cents).

Members with the Class II wage scale may enter Class III and provision is made for a change in class with increasing wages.

To the pensions granted by the Imperial law of 300 marks ($71.40), Class I, 500 marks ($119), Class II, 720 marks ($171.36), Class III, and 960 marks ($228.48), Class IV, and which are provided for the workmen in Fund A, there is a supplementary payment for this fund (Fund B). This supplementary payment is made wherever the workman has contributed for 10 years and where sickness, accident, or other injury is due to the service itself before the termination of the 10 years. The pension increases with the number of years of service from the tenth up to the thirty-fifth year, and ranges from 30 marks ($7.14), after 10 years of contribution, to 80.40 marks ($19.14), after 35 years, in Class II; from 45 to 120 marks ($10.71 to $28.56) in Class III; from 60 to 160.20 marks ($14.28 to $38.12) in Class IV; from 72 to 192 marks ($17.14 to $45.70) in Class IVa, and from 84 to 224.40 marks ($19.99 to $53.41) in Class IVb. Thus, if a locomotive engineer earning 5 marks ($1.19) a day, and belonging to Class IVb, is injured he receives after 10 years of payments the basic pension of 960 marks ($228.48) plus the supplementary allowance of 84 marks ($19.99), or 1,044 marks ($248.47); but after 35 years of payments he would receive 960 plus 224.40, or 1,184.40 marks ($281.89) per year, while a track man earning 2.50 marks ($0.59½) a day (Class II) would receive after 10 years of

service 300 plus 30, or 330 marks ($78.54), and after 35 years 300 plus 80.40, or 380.40 marks ($90.54). The widows of those who are eligible to receive supplementary allowances are qualified to receive pensions, provided the marriage took place more than 3 months before the death of the employee and was not consummated for this purpose. The pension for orphans equals for each child one-third of the widow's pension when the mother still lives, or one-half when the mother is deceased; but the total pension to the children is not to exceed one and one-half times the widow's pension in the first case nor twice the pension in the second case.

From the year 1888, when the fund was created, its membership increased from 13,500, and from 1891, when it was transformed, from 15,777 to 19,549 members in 1896. In 1896 its total income of 639,298 marks ($152,152.92) was derived in the following manner: 3,132 marks ($745.41) from entrance fees, 237,211 marks ($56,456.22) from contributions of members, 234,851 marks ($55,894.54) from the administration, and 164,104 marks ($39,056.75) from miscellaneous sources. The total expenditure of 148,923 marks ($35,443.67) consisted, among other accounts, of 38,981 marks ($9,277.48) for supplementary pensions, etc., 8,109 marks ($1,929.94) for disability pensions, 35,852 marks ($8,532.78) for widows, 11,559 marks ($2,751.04) for orphans, and 2,699 marks ($642.36) for burial expenses. The expenditures being less than one-fourth of the receipts, the surplus has grown rapidly, it being 606,277 marks ($144,293.93) at the end of 1888, and 5,457,481 marks ($1,298,880.48) at the end of 1896.

The table following shows the development of the sick fund (*Krankenkasse*), organized December 1, 1884, for workmen on the Saxon State railways, in conformity with the Imperial law of June 15, 1883, regarding the insurance of workmen against sickness. This fund consisted formerly of 16 separate funds, each of which was designated by a letter, and whose income in 1896 ranged from 20,000 marks ($4,760) up to 143,000 marks ($34,034), but the funds are now amalgamated.

RECEIPTS AND EXPENDITURES OF THE SAXON STATE RAILWAY WORKMEN'S SICK FUND, 1885 TO 1897.

Year.	Members.	Receipts.						
		Interest on capital.	Entrance fees.	Contributions of—			Other income.	Total.
				Compulsorily insured and of administration.	Voluntary members.	Others.		
1885	15,033	$762	$545	$81,995	$220	$546	$502	$84,570
1886	15,688	1,121	441	87,153	326	619	583	90,243
1887	16,608	1,369	498	93,904	304	1,540	557	98,172
1888	17,773	1,916	566	101,068	328	1,833	1,632	107,343
1889	18,996	2,777	566	108,145	327	2,016	454	114,285
1890	20,195	3,341	602	117,489	442	2,090	499	124,463
1891	21,849	3,923	462	129,856	559	2,392	616	137,808
1892	21,674	4,570	386	133,370	921	2,860	509	142,616
1893	22,649	4,964	332	138,175	997	3,103	451	148,122
1894	23,148	4,513	273	147,472	1,082	2,217	456	156,013
1895	24,088	5,019	289	152,840	1,141	2,100	686	162,075
1896	24,894	5,756	290	155,869	1,308	2,602	422	166,247
1897	26,818	6,155	373	169,202	1,515	2,834	606	180,685

RECEIPTS AND EXPENDITURES OF THE SAXON STATE RAILWAY WORKMEN'S SICK FUND, 1885 TO 1897—Concluded.

Year.	Expenditures.									Surplus.	Assets at end of year (market value).
	Medical treatment.	Medicine.	Sick payments.	Lying-in payments.	Death payments.	Hospital charges.	Cost of administering fund.	Miscellaneous expenses.	Total.		
1885	$32,987	$8,785	$21,346	$510	$9,055	$1,805	$101	$279	$74,868	$9,702	$25,829
1886	35,254	9,788	24,083	536	8,485	1,834	279	398	80,657	9,586	35,437
1887	32,487	9,998	22,927	592	8,153	2,333	315	267	77,072	21,100	55,845
1888	36,825	12,202	25,982	595	8,609	2,505	342	361	87,421	19,922	77,206
1889	39,588	14,039	29,720	482	9,122	2,935	322	128	96,336	17,949	93,813
1890	45,376	16,793	34,607	490	9,454	3,271	369	173	110,533	13,930	105,704
1891	47,979	19,235	35,483	575	9,350	3,548	409	151	116,730	21,078	127,148
1892	53,672	22,400	42,065	564	10,986	4,004	718	265	134,674	7,942	140,100
1893	60,674	25,528	56,671	1,913	15,056	4,263	460	196	164,761	*a*16,639	119,524
1894	51,599	19,423	46,890	1,754	12,659	4,444	470	280	137,519	18,494	138,159
1895	49,715	17,647	53,206	1,424	13,326	4,681	498	156	140,653	21,422	159,326
1896	53,540	18,488	58,188	1,334	13,152	5,137	513	188	150,540	15,707	171,029
1897	61,425	20,971	66,601	1,371	15,415	5,792	612	473	172,660	8,025	181,241

a Deficit.

SWITZERLAND.

EMPLOYMENT ON SWISS RAILWAYS.

During the year 1895 there were 25,208 persons employed on Swiss railways, or, if we exclude 161 persons who were simply accessory and not directly engaged in the service, the total number was 25,047. By far the greater number of these, 22,908, or over 91 per cent, were employed by the five largest companies—the Central, Gothard, Jura-Simplon, Northeastern, and the United Swiss railways—the remaining 34 companies employing only 2,139, an average of 63 per company. The Jura-Simplon and the Northeastern employ the most men, owing to their greater length, but the density of employment, however, is considerably greater on the Central and Gothard railways.

From 1885 to 1895 the railway staff on Swiss railways increased from 15,729 to 25,047, an increase of over 59 per cent. During the same period the mileage increased considerably less rapidly, and even receipts have not quite kept pace with the increase in the staff. In 1883 there were per kilometer 5.30 (per mile 8.5) employees; in 1884, 5.45 (per mile 8.8) employees; in 1885, 5.44 (per mile 8.8) employees; while in 1895 there were per kilometer 6.97 (per mile 11.2) employees. In 1883 there were 2.06 employees per 10,000 francs ($1,930) of revenue; in 1884, 2.19; in 1885, 2.13; and in 1895, 2.25. In other words, for every person employed in 1885 there were $906 of gross receipts from operation (*Betriebseinnahmen*), while in 1895 there were only $858 gross receipts per employee. This is due primarily to falling rates and fares, the gross amount of traffic handled per employee having increased.

HOURS OF LABOR.

The hours of labor on Swiss railways have been regulated by a Federal law passed in 1890. The law, which concerns not only railways but steamboats, posts, and all other transportation agencies, whether chartered or managed by the Confederation, is exceedingly radical. It

provides that the maximum day for all employees, in so far as the exigencies of the traffic require an unusual period of work, shall not exceed 12 hours. Both the train and locomotive staff and other employees are to enjoy a daily uninterrupted period of rest of at least 9 hours, except where the employee lives in the station or along the line, in which cases the minimum period of rest is 8 hours. After about one-half of the period of work has elapsed, the employee has the right to an interruption of at least an hour.

The most important provision of the law relates to free days, and above all to free Sundays. By a former Federal statute, passed in 1872, the employee was guaranteed a number of free Sundays, but this provision was generally disregarded and in the supplementary law, passed February 14, 1878, this provision was at the instance of the railway companies omitted. It has been revived, however, by the law of 1890, and made the central feature of the whole scheme of the reform of the period of work. The law provides that all employees shall annually receive 52 free days, distributed through the year in a convenient and reasonable manner, and of these 17 must fall upon Sundays. The companies are not entitled to make a deduction from wages in consideration of these free days. Sunday freight traffic must entirely cease, with the exception of express traffic of merchandise or cattle. When rendered necessary by special circumstances various provisions of this law may be exceptionally suspended. Contraventions of the law are punished by a fine not exceeding 500 francs ($96.50) for the first offense, and not exceeding 1,000 francs ($193) for subsequent offenses. The surrender on the part of an employee of the privilege of having any given day free does not exculpate the company for depriving him of subsequent free days.

In carrying out the law a number of difficulties were encountered, and at first considerable friction ensued. In a special report made by the board of inspectors of Swiss railways to the Federal department of post and railways on March 30, 1892, with regard to the carrying into execution of the law of 1890, several of these difficulties were pointed out. The railways complained that it was impossible to obey the law, and that it was particularly difficult to put a stop to Sunday freight traffic, especially in view of the increase of business in 1891. They had, therefore, requested that the law be not put into operation at all until June 1, 1891, and that it should not be completely executed until June 1, 1893. The difficulties, however, were exaggerated, and it was found that by January 1, 1891, the Gothard company had completely stopped its freight service, and by August 1 all the other great companies had, with one partial exception, ceased to carry slow freight on Sundays. The Gothard and Central railways found it possible within a few months after the passage of the law to give the men, with a few exceptions, the contemplated number of hours of rest. In certain stations on the Central and on other railways it was at first found impossible to obtain the additional men necessitated by the new conditions

of traffic, but during the summer this difficulty was obviated. The Federal Council, however, saw itself compelled during the month of September, 1891, to grant the companies permission to revive their Sunday slow freight traffic from September 27 to November 15, owing to the heavy autumn traffic, and in order to permit the trucks to be properly utilized.

On the whole, however, it was clearly recognized as early as 1892 that the anticipations of the companies had been too pessimistic, and that the law in its main provisions could be carried out. The most difficult feature of the law was the granting of 17 Sundays per year, and while the prohibition of slow freight traffic rendered the granting of the free days easier, it did not suffice in all cases. Thus, for example, the Jura-Simplon Railway had developed a great amount of cheap Sunday excursion traffic, and the men who were freed from the freight business were thus absorbed by the increasing of the passenger traffic. The board of inspectors, however, who were charged with the execution of the law, held that the free Sundays to the employees were of greater importance than the excursion travel to the public, especially as much of this traffic might easily be created and accommodated on week days if the fares were reduced, and insisted upon obedience to the statute.

Present appearances point to an approaching attempt at a revision of the law of 1890. Since the passage of the law the demands of the men have been growing, and it is now hoped that a law will be passed by the council that will be still more favorable to the employees, or that the present law will be revised in this sense. The chief demand that is now made is the establishment of a 10 hours' maximum. The companies seem willing to compromise on 11 hours, but the leaders among the railway employees insist upon a further concession. It is also expected to obtain for the men, if possible, the granting of a week's leave of absence over and above the 52 free days now conceded, and to insist that the free days shall be preceded and followed by nights off duty.

WAGES.

At present the official reports do not furnish statistics of wages, and the wage scales of the companies merely give maximum and minimum wages and the general conditions of promotion and advance of salary. There is now being carried on, however, an extended investigation into the wages and general conditions of employment on Swiss railways. This inquiry, which has been sanctioned by the Federal Government and intrusted to the association of Swiss railway labor unions, has been in progress for over half a year, and the results will probably be published within a year.

ORGANIZATIONS OF EMPLOYEES AND STRIKES.

One of the oldest and most important Swiss railway labor organizations is the Union of Swiss Train Employees (*Schweizerischer Zugspersonal-Verein*). This organization was formed as early as 1885 for the

purpose of aiding employees in case of sickness, accidents, or litigation, and for granting pensions. Admission into the union is voluntary. A train employee may be admitted, however, only during the first five years of his regular service, and only on the condition that he is not above 35 years of age. A former employee may retain his membership even after he has left the railway service, but members who act in opposition to the interests of the union or of the train staff may be expelled and lose all right to the benefits of the society.

The entrance fee is 5 francs ($0.97) for all members, and the dues amount to 2 francs ($0.39) per month. In case of the sickness of a member the union pays 1 franc ($0.19) a day after the fortieth day of sickness, but no greater sum than 100 francs ($19.30) is paid a member for sickness within one year. On the death of a member the union pays to his widow, orphan, parents, or brothers and sisters the sum of 200 francs ($38.60) if he had been a member for one year, 300 francs ($57.90) if he had been a member two years, and so on, increasing 100 francs ($19.30) for each additional year of membership until the maximum payment of 1,000 francs ($193) is reached.

Another important organization is the Union of Swiss Railway and Steamboat Employees (*Verein schweizerischer Eisenbahn- und Dampfschiff-Angestellter*). This is not so close an organization as the Union of Train Employees. Anyone employed in any capacity on the Swiss railways may become an active member on paying 1 franc ($0.19) initiation fee, and an active member has the right to vote upon all matters. The union consists of a number of branch organizations, each of which must have at least 20 members, who make their own rules in so far as they do not conflict with the general rules of the organization. Each branch organization elects a member to the meeting of representatives, which takes place once a year but may be summoned oftener. The principal powers of the union are vested in the body of representatives, who have the privilege of revising the constitution of the union. The union may be dissolved by a vote of two-thirds of all its members.

On January 1, 1895, there was formed a confederation of the existing railway labor unions, called the Verband des Personals schweizerischer Transportanstalten. The purpose of this association was to unite the existing organizations and to obtain from them uniform action. The principle of a loose organization was chosen, and the autonomy of the individual unions was preserved as far as possible. All unions were permitted to join, and on six months' notice to leave the association, and each union preserved its control over its constitution and inner management. To the assembly of representatives of the association, each union sent one representative for each 100 of its members. The association committee, on the other hand, consisted of one member from each union, with an extra member from the Union of Swiss Railway and Steamboat Employees. The assembly of representatives convenes once a year, the association committee once a quarter. The

management of the organization is divided among the members of the committee. The costs of administration are met by a contribution from each of the associated unions, amounting quarterly to 5 centimes (1 cent) per member.

The announcements of the committee are made in the Swiss Railway Journal (*Schweizerische Eisenbahn-Zeitung*). This journal, which is now in its thirteenth year, also represents the Union of Swiss Railway and Steamboat Employees, but is the official organ of the association.(*a*) It is obligatory upon all members to obtain the journal, which appears once a week.

The immediate effect of this confederation of railway labor unions was a considerable increase in power. The employees of the Swiss Central were the first to take advantage of this. Conditions upon this road were more unfavorable than in other parts of Switzerland. Daily wages frequently ranked below 3 francs ($0.58) per actual day of work. The company granted the free days contemplated by the law, but they did not pay for these days, and the advantage of the employees was rendered illusory. The Central employees at Basel appealed to the association, and this body, after refusing certain small concessions of the Central, finally obtained a general increase of wages (up to 16 per cent), not only in Basel, but on the whole line. A similar victory was won in Basel for the workmen of the United Swiss Railways.

The association then determined to make general demands, and in the autumn of 1895 the employees of the large companies one after another joined in demanding through the association an improvement in the conditions of service. The chief improvements asked for were an increase in wages, a fixed wage scale, and fixed regulations defining the rights and duties of employees. The increase in wages, however, was the chief consideration. On the United Swiss Railways 10 per cent of all employees received no more than 960 francs ($185.28), and 80 per cent 2,000 francs ($386) or less per year. The men demanded an increase of 25 per cent for all salaries under 2,000 francs ($386) per year, of 20 per cent for all salaries from 2,001 to 2,500 francs ($386.19 to $482.50), of 15 per cent for all salaries from 2,501 to 3,000 francs ($482.69 to $579), and of 10 per cent for all salaries from 3,001 to 3,600 francs ($579.19 to $694.80). The struggle which resulted from the refusal of the companies was finally terminated on February 29 and March 1, 1896, in a conference at which the men and the companies were represented and which was presided over by the chief of the Swiss railway department. The result was a series of considerable concessions on the part of the companies.

The Northeastern Railway strike in 1897 showed the power of the association still more clearly. It arose from the conditions resulting from the movement of 1895–96, the Northeastern not having fulfilled the promised reforms. Numerous petitions and complaints were pre-

a Besides the unions above mentioned, the association includes the Locomotive Engineers' Union, the Firemen's Union, and the Car Examiners' Union.

sented and an attempt was made to obtain a conference between a representative of the association and the company. This was refused, however, and the complaints of the men were referred to a committee. The resulting strike, which began in March, was of short duration and culminated in a complete victory for the men.

LIABILITY FOR ACCIDENTS.

The liability of a railway company for accidents, either to passengers or employees, is fixed by the Federal law of July 1, 1875. This law provides that in the construction of a railway the company is responsible for deaths and injuries. The company is responsible for injuries or deaths occurring during the operation of the lines in so far as they are not due to a higher power or to the carelessness of the injured or killed. This responsibility is extended to its own employees. In case of death the heirs of the employee are permitted to claim the cost of the attempted cure and of the burial, and also the loss of income, not only of the employee himself, but of his dependents, due to his sickness. In the case of an injury the amount to be received must be sufficient to cover expenses of cure and loss of income involved. The award for future inability to work may be made either in a lump sum or in an annual pension, according to the judgment of the court. The court passes upon the validity of the claim for damages and the truth of the statements advanced, and determines the amount of the damages to be paid. The right to claim damages may not be surrendered prior to an accident by any special agreement, and can not be taken away by company regulations or otherwise.

PENSION AND RELIEF FUNDS.

Up to the year 1878 there was no Federal law relating to the subject of pension funds. On December 20 of that year, however, a law was passed which provided for the security of the sick, relief, pension, deposit, and savings funds of railway employees. This law was supplemented on June 28, 1889, by a further measure, and one of considerably more importance.

The law of 1889 provides that the statutes regulating all such funds shall be laid before the Federal council for revision. It further provides that in funds providing relief for old age, disability, or death the income shall be sufficient for these purposes without taxing the individual member unreasonably; that no member shall pay more than the probable value of the insurance; that existing members shall in future payments profit by the provisions of the present law, and that in leaving the company each member shall have the restitution of a reasonable share of the contributions he has already made. Estimates and balances are to be submitted to the Federal council, and where that body finds a discrepancy between the amount of insurance and the contributions of the members it may call upon the company to make good what it considers the deficit. Such a balance must be submitted ordinarily every five years, and extraordinarily at the request of the

Federal council, but either the company itself or one-tenth of the insured members may, within thirty days, enter protest against the council's decision. In such cases the council appoints a committee of insurance specialists, to which the company (or the employees) may appoint one member and the Federal court three. The surplus income of the fund must be held as a reserve fund, and the company must invest it safely and be responsible for losses. The liquidation of such a fund can only take place with the consent and under the supervision of the Federal council.

Even before this law, and as early as December, 1885, the Federal council refused to grant railway charters which did not contain suitable provisions for pension, relief, and sick funds. The disadvantage to which this refusal put the newer companies was more apparent than real, as most of the railways had already established funds of this sort, and new funds were being yearly established which could not be dissolved without the consent of the Federal council. Thus by January 1, 1891, after the law of 1889 went into operation, the Central, Gothard, Jura-Simplon, Northeastern, United Swiss, and other minor railways had pension funds, which, including the smaller steamboat companies, had a membership of 9,974. The revenues of these were not derived in great part from the men, the employees contributing 835,000 francs ($161,155) and the companies 1,823,000 francs ($351,839), while 544,000 francs ($104,992) were derived from other sources, including interest on capital. The expenses during the year were 1,217,000 francs ($234,881), 1,088,000 francs ($209,984) being devoted to the support of 2,037 members, and the balance at the end of the year amounted to 12,874,000 francs ($2,484,682). The sick funds, savings funds, and relief funds, with an almost equal membership (9,784), were of less importance, the income amounting to 365,000 francs ($70,445), the expenditure to 256,000 francs ($49,408), and the balance December 31, 1891, to 922,000 francs ($177,946). While the members contributed only 45 per cent as much to the pension funds as did the companies, they contributed 281 per cent as much as the companies to the sick, savings, and relief funds. By December 31, 1895, the membership of the pension funds had increased to 10,720 and that of the other funds to 12,182, and the surplus of the pension funds had increased to 21,944,078 francs ($4,235,207.05) and that of the sick, savings, and relief funds to 1,160,925 francs ($224,058.53). The following shows the development and gradual growth of several characteristic pension and sick funds on Swiss railways:

The Gothard Railway pension fund counts a membership of 1,313. In 1896 this company employed 3,002 persons, or 11.28 per kilometer (18.2 per mile). Of these employees 1,456, or 48.5 per cent, were workmen paid by the day. The membership has grown steadily, being on January 1, 1891, 980; 1892, 1,012; 1893, 1,132; 1894, 1,166; 1895, 1,204; 1896, 1,269, and 1897, 1,313. During these years the membership increased 333, or about 34 per cent, while 194 have left without receiving aid; 13 have been injured, 44 have died, and 42 have retired on account of old age or disability. The smallest part of the income

comes from the members, contributions from this source amounting to 94,289 francs ($18,197.78) in 1896, as compared with 346,531 francs ($66,880.48) from the company and 158,942 francs ($30,675.81) from miscellaneous sources. The expenditures bear but a small ratio to the total income, and the surplus in hand has increased steadily from 1,675,888 francs ($323,446.38), at the end of 1891, to 3,443,951 francs ($664,682.54) at the end of 1896. Of the total expenditures during 1896 of 91,613 francs ($17,681.31), 32,710 francs ($6,313.03) were devoted to living members and 44,847 francs ($8,655.47) to the families of deceased members.

The sick fund for regular workmen (*Arbeiter*) had 2,315 members in 1897, who paid during that year 40,235 francs ($7,765.36) for entrance fees and contributions, or 17.38 francs ($3.35) per capita, the total income being 65,039 francs ($12,552.53). The fund itself paid out 21,696 francs ($4,187.33) for physicians, medicine, and hospitals, or 9.37 francs ($1.81) per capita, the total expenditure of the fund per capita amounting to 26.75 francs ($5.16). The total number of days of sickness was 29,090, or 12.6 per member, and the cost for hospitals, medical attendance, and drugs averaged only 75 centimes (14.5 cents) per day of sickness.

The Swiss Central Railway maintains a sick fund for its workshop employees, to which some of the men employed in the locomotive and train service (at Olten) are admitted. The membership of this sick fund was 798 in 1897. It paid out 5,813 francs ($1,121.91) for medical attendance, drugs, hospitals, etc., or 7.28 francs ($1.41) per member. The number of sick days was 9.9 per member. At the end of the year the balance on hand amounted to 29,501 francs ($5,693.69).

The Swiss Central Railway, which in 1897 employed 4,520 persons, not including apprentices,(*a*) had in that year 2,255 members in its pension fund and a balance of 5,196,548.75 francs ($1,002,933.91) at the end of the year. The following table of the growth of the fund since 1881 shows, among other things, the increasing contributions to the fund made by the company. In the number of assisted persons the whole family of a deceased member is counted as one person:

STATISTICS OF THE SWISS CENTRAL RAILWAY PENSION FUND, 1881 TO 1897.

Year.	Members.	Persons assisted.	Amount of assistance.	Contributions of members.	Contributions of the company.
1881	1,323	315	$32,176.57	$19,753.36	$19,356.74
1882	1,382	326	32,696.90	17,784.37	26,880.27
1883	1,416	349	34,285.68	18,824.26	27,999.28
1884	1,427	376	38,715.80	18,216.50	41,013.27
1885	1,449	398	44,066.73	19,767.83	42,540.48
1886	1,485	413	43,937.42	19,584.29	48,211.98
1887	1,511	431	47,328.81	22,030.76	48,285.90
1888	1,546	451	50,946.79	25,023.80	53,474.32
1889	1,588	471	54,328.92	26,731.27	56,851.62
1890	1,661	493	58,330.20	28,347.65	81,434.81
1891	1,830	514	62,223.20	32,114.81	69,575.54
1892	1,870	537	69,716.62	30,788.90	69,659.68
1893	1,868	558	70,615.81	30,593.01	70,240.61
1894	1,906	556	75,763.31	31,379.48	71,213.14
1895	1,919	578	77,460.36	31,744.64	71,943.65
1896	2,057	591	80,852.14	49,791.68	88,959.10
1897	2,255	602	84,180.04	46,829.71	85,795.26

a This was on a line of 411 kilometers (255.4 miles), which makes the density of employment 11 persons per kilometer (17.7 per mile).

RECENT REPORTS OF STATE BUREAUS OF LABOR STATISTICS.

MAINE.

Eleventh Annual Report of the Bureau of Industrial and Labor Statistics for the State of Maine. 1897. Samuel W. Mathews, Commissioner. 208 pp.

The contents of this report may be grouped as follows: Manufacturing industries, 9 pages; factories, mills, and shops built during 1897, 4 pages; reports on the spool, wood novelty, and brickmaking industries, 43 pages; railroad employees and wages, 3 pages; the summer tourist business, 61 pages; population, 12 pages; extracts from the report of the proceedings of the thirteenth annual convention of the National Association of Officials of Bureaus of Labor Statistics, 39 pages; labor laws of Maine, 11 pages; report of the inspector of factories, workshops, mines, and quarries, 16 pages.

MANUFACTURING INDUSTRIES.—This investigation is confined to cotton and woolen mills and the boot and shoe industry. A list of cotton and woolen mills is published and statistical tables and an analysis are presented relating to the cotton, woolen, and boot and shoe industries. Complete returns from 10 cotton mills, 25 woolen mills, and 15 boot and shoe shops are summarized in the following statement:

STATISTICS OF THE COTTON, WOOLEN, AND BOOT AND SHOE INDUSTRIES FOR THE YEAR ENDING JUNE 30, 1897.

Items.	Industry.		
	Cotton goods.	Woolen goods.	Boots and shoes.
Capital invested	$9, 863, 100	$2, 825, 800	$853, 500
Cost of material used	$4, 072, 731	$2, 374, 432	$2, 195, 612
Value of product	$7, 038, 299	$3, 630, 312	$3, 515, 939
Number of weeks in operation	48. 1	45. 5	48. 7
Average number of employees:			
Men	3, 339	1, 729	1, 250
Women	4, 269	852	631
Children under 16 years	446	31	.....
Total	8, 054	2, 612	1, 881
Average weekly wages:			
Men	$7. 73	$8. 42	$10. 40
Women	$5. 79	$6. 25	$7. 35
Children under 16 years	$2. 76	$3. 64	.....
Total wages paid during year	$2, 331, 674	$911, 037	$819, 774
Number of establishments reporting	10	25	15

FACTORIES, MILLS, AND SHOPS BUILT DURING 1897.—The amount of money expended in 1897 for building, repairing, and enlarging factories, mills, and shops was $827,600, or $228,300 less than in 1896. There was an increase in the number of such buildings from 77 in 1896 to 95 in 1897, and in the number of persons employed in such work from 1,470 in 1896 to 2,339 in 1897.

SPOOL, WOOD NOVELTY, AND BRICKMAKING INDUSTRIES.—This group consists of a series of three articles on the spool, wood novelty, and brickmaking industries, respectively. The last-named article is followed by abstracts from returns from brickmakers regarding the condition of this industry.

RAILROAD EMPLOYEES.—A statement is given of returns from 23 railroad companies doing business in the State on the employment of labor and wages paid in 1897, and a comparison of these returns with those for the preceding year. The returns for 1897 show a total of 5,842 employees, exclusive of general officers, and a total wage list amounting to $2,811,287.47. In 1896 there were 5,742 employees and a wage list amounting to $2,763,353.93.

THE SUMMER TOURIST BUSINESS.—The subject-matter grouped under this head comprises a list of summer resorts in the State, their location, capacity, etc.; a list of guides and sporting camps; the local attractions of various counties, and other information of interest to summer tourists.

POPULATION.—The figures here presented were taken from the Report of the Eleventh Census of the United States.

NEW YORK.

Fifteenth Annual Report of the Bureau of Labor Statistics of the State of New York, for the year 1897. Transmitted to the legislature February 18, 1898. John T. McDonough, Commissioner. 898 pp.

The report is presented in four parts and two appendices, as follows: Part I, The economic condition of organized labor, 487 pages; Part II, The ownership and operation of electric light and power, gas, and water plants, 105 pages; Part III, Agricultural conditions in New York State, 107 pages; Part IV, Free employment bureau, 14 pages; Appendix I, Labor laws of New York State in force January 1, 1898, 82 pages; Appendix II, Proceedings of the thirteenth annual convention of the National Association of Officials of Bureaus of Labor Statistics in the United States, 74 pages.

THE ECONOMIC CONDITION OF ORGANIZED LABOR.—This subject occupies the greater part of the present report. Tables are given showing in detail for each occupation, industry, and locality for the quarters ending March 31, June 30, and September 30, 1897, the number of labor organizations making returns, the number and sex of members, their wages and days of labor, and the number idle.

The table following shows, by industries, the number of labor organizations reporting, their membership, and the number and percentage of members idle on June 30, 1897.

MEMBERSHIP OF LABOR ORGANIZATIONS AND MEMBERS IDLE ON JUNE 30, 1897.

Industries.	Organizations reporting.	Membership.			Members idle.	
		Men.	Women.	Total.	Number.	Per cent.
Building trades	252	46,056	.....	46,056	10,571	23.0
Cigars, cigarettes, and tobacco	52	5,253	1,709	6,962	617	8.9
Clothing	51	17,134	1,499	18,633	2,944	15.8
Coach drivers and livery-stable employees	5	2,036	.....	2,036	396	19.4
Food products	31	2,578	.....	2,578	381	14.8
Furniture	4	548	3	551	184	33.4
Glass workers	15	881	.....	881	301	34.2
Hats, caps, and furs	14	2,175	122	2,297	248	10.8
Hotel, restaurant, and park employees	15	2,009	.....	2,009	638	31.8
Iron and steel	127	10,759	.....	10,759	1,422	13.2
Leather workers	12	2,274	62	2,336	581	24.9
Malt liquors and mineral waters	29	3,353	.....	3,353	256	7.6
Marine trades	14	2,860	.....	2,860	260	9.1
Metal workers	12	946	.....	946	215	22.7
Musicians and musical instrument makers	13	2,168	.....	2,168	495	22.8
Printing, binding, etc	62	12,668	465	13,133	2,242	17.1
Railroad employees (steam)	132	9,745	.....	9,745	299	3.1
Railroad employees (street surface)	2	3,203	.....	3,203	.....	.....
Stone workers	32	5,114	.....	5,114	1,180	23.1
Street paving, etc	8	674	.....	674	45	6.7
Textile trades	7	1,174	.....	1,174	447	38.1
Theatrical employees and actors	10	1,630	240	1,870	1,025	54.8
Wood workers	21	1,786	.....	1,786	485	27.2
Miscellaneous trades	56	10,081	1	10,082	2,146	21.3
Total	976	147,105	4,101	151,206	27,378	18.1

The group of building trades was most strongly represented in the preceding tabulation, there being 252 organizations, with an aggregate membership of 46,056. Next in importance with regard to membership was the clothing industry, namely, 18,633 members. This was closely followed by the group of printing, binding, etc., with 13,133 members. The group of theatrical employees and actors reported the largest proportion of unemployed, 54.8 per cent of the members being idle on June 30, 1897. In the textile industries 38.1 per cent, and among glass workers 34.2 per cent, of the members of labor organizations were out of employment on that date.

Electric Light and Power, Gas, and Water Plants.—This investigation was undertaken in consequence of a recommendation made by the National Association of Officials of Bureaus of Labor Statistics in the United States. Returns were received by the bureau from 80 plants owned by municipalities and 282 plants owned by private companies and firms. Of the municipal plants 4 were electric light and power, 5 electric light and water, and 71 water. Of the 282 private plants 97 were electric light and power, 26 electric light and gas, 2 electric light and water, 61 gas, and 96 water. No public gas plants were reported in the State. The investigation was begun in May, 1897, and was conducted in accordance with a schedule prepared by the United States Department of Labor. Tables are presented showing for each plant the date of creation, character of ownership, cost, assessed valuation, present value, yearly salaries of officers and wages of em-

ployees, capacity of plant, and cost of production and selling price of product. Some tables were analyzed, but no summaries were published.

The following statements show the cost of the plants, their present value and depreciation, and the salaries and wages paid to officials and employees in 1897 for the establishments reporting upon the respective topics:

COST AND VALUE OF ELECTRIC LIGHT AND POWER, GAS, AND WATER PLANTS, 1897.

Character of plant and ownership.	Plants reporting.	Cost of plant.	Present value of plant.	Depreciation.
Electric light and power:				
Public	4	$87,000.00	$80,250.00	$6,750.00
Private	92	25,208,787.56	28,136,745.15	*a* 2,927,957.59
Total	96	25,295,787.56	28,216,995.15	*a* 2,921,207.59
Electric light and gas:				
Private	25	11,431,794.99	9,382,022.40	2,049,772.59
Electric light and water:				
Public	5	592,493.73	545,668.70	46,825.03
Private	2	119,025.86	96,600.00	22,425.86
Total	7	711,519.59	642,268.70	69,250.89
Gas works:				
Private	47	88,266,758.05	87,838,523.72	428,234.33
Waterworks:				
Public	70	131,073,023.35	127,017,201.18	4,055,822.17
Private	79	14,663,338.74	10,714,046.46	3,949,292.28
Total	149	145,736,362.09	137,731,247.64	8,005,114.45

a Increased value.

SALARIES AND WAGES OF OFFICIALS AND EMPLOYEES OF ELECTRIC LIGHT AND POWER, GAS, AND WATER PLANTS, 1897.

Character of plant and ownership.	Total yearly salaries.				Total yearly wages.			
	Plants reporting.	Salaried officials and employees.	Amount.	Average per official or employee.	Plants reporting.	Employees receiving wages.	Amount.	Average per employee.
Electric light and power:								
Public	4	12	$7,410.00	$617.50	2	8	$4,900.00	$612.50
Private	68	242	234,032.23	967.08	87	1,106	743,754.70	672.47
Total	72	254	241,442.23	950.56	89	1,114	748,654.70	672.04
Electric light and gas:								
Private	20	81	87,019.25	1,074.31	25	562	352,715.92	627.61
Electric light and water:								
Public	4	18	11,818.00	656.56	3	7	3,110.00	444.29
Private	2	8	3,674.00	459.25	(*a*)	(*a*)	(*a*)	(*a*)
Total	6	26	15,492.00	595.85	.....	.....	.....	.....
Gas works:								
Private	53	985	1,241,786.31	1,260.70	59	4,919	3,059,113.57	621.90
Waterworks:								
Public	57	902	896,127.82	993.49	36	1,481	769,287.41	519.44
Private	74	200	123,092.38	615.46	37	220	80,256.80	364.80
Total	131	1,102	1,019,220.20	924.88	73	1,701	849,544.21	499.44

a Not reported.

The detailed figures regarding the capacity of plants and the cost of production and selling price of product are in most cases in such shape that they can not here be summarized.

In the case of gas, 74 plants reported a total capacity of 86,548,329 cubic feet per twenty-four hours. Two natural gas companies reported a daily capacity of 1,003,430 cubic feet. The average cost of production reported by 26 city companies was 52.8 cents per 1,000 cubic feet, and the average cost reported by 34 village plants was 73.7 cents per 1,000 cubic feet. The selling price of gas varied from $1 to $2.50 per 1,000 cubic feet in cities, and from $1 to $5 per 1,000 cubic feet in villages.

AGRICULTURAL CONDITIONS.—This portion of the report consists of statements and tabulated returns from farmers throughout the State regarding the general condition of the farming industry, the acreage of farms, the staple products, wages of farm laborers in 1896, and the selling price of cereals, fruit, cattle, and other farm products, cost of transportation, income derived from dairy products, poultry, sheep raising, etc., in 1894, 1895, and 1896.

FREE EMPLOYMENT BUREAU.—During the year ending December 31, 1897, 7,315 persons made application to the bureau for employment. Of these, 3,996 were men and 3,319 were women. Situations were secured for 378 males and 1,127 females, or 1,505 persons in all. Of the applicants for situations, 810 had 1,703 children depending upon them for support. Most of the applicants were under 30 years of age.

OHIO.

Twenty-first Annual Report of the Bureau of Labor Statistics of the State of Ohio, for the year 1897. Transmitted to the Seventy-second General Assembly, December 14, 1897. William Ruehrwein, Commissioner. 327 pp.

This report treats of the following subjects: Glass workers, 16 pages; rolling mills, 60 pages; blast furnaces, 22 pages; coal mining, 8 pages; manufacturing, 197 pages; free employment agencies, 8 pages.

GLASS WORKERS.—A statistical presentation is given of the number of employees of glass works for which returns were received, their daily wages, hours of labor, and the number of days worked during the year, arranged according to occupations. The returns cover 1,826 men, 357 women, and 803 boys, or a total of 2,986 employees.

ROLLING MILLS.—Returns for this industry cover 210 mills. The tables show the number of mills, days in operation, and production for each class of rolling mill, and the number of employees, hours of labor, and daily wages for each occupation.

BLAST FURNACES.—Returns were received from 38 blast furnaces showing the occupations, number of employees, daily wages, hours of labor, and days worked during the year ending July 1, 1897. The total number of employees was 2,927.

Returns were received from 27 blast furnaces showing the capital invested, cost of material used, amount paid for taxes and insurance, value of product, and amount paid for wages and salaries. The following statement shows the aggregate figures for the 27 blast furnaces reported:

Capital invested	$6,210,289.56
Cost of material used	5,583,700.70
Amount paid for taxes and insurance	41,874.67
Value of product	7,417,096.10
Total wages paid	751,101.68
Total salaries paid	117,874.60

COAL MINING.—This chapter is mainly descriptive of the condition of the mining industry in the State, as observed by an agent of the department. A small table shows the daily, monthly, and yearly earnings of miners and day hands, arranged by counties.

MANUFACTURING.—This subject occupies the greater part of the present report. Detailed statistical tables are given, showing, by occupations, for cities and villages, the number of males and females employed in various industries, the average daily wages, yearly earnings, and hours of daily labor in 1896, and the average number of days worked in 1895 and 1896. Also, tables are given showing, by industries, for cities, villages, and the State, the number of establishments reported, males and females employed each month in 1896, and monthly average for 1895 and 1896, total wages paid in 1895 and 1896, and the number and salaries of office employees, capital invested, value of product, and cost of material used in 1896.

Following is a brief summary of some of the figures presented: In 2,298 establishments $47,876,081.96 was paid in wages during 1896, which was a decrease of $1,878,231.52 since 1895 in the same establishments. During 1896 the total value of goods made in 2,164 establishments was $205,196,951.88, and the value of material used in the same establishments was $111,062,612.13. In 1896, 2,074 establishments employed a monthly average of 89,392 males and 15,939 females.

EMPLOYMENT OFFICES.—During the year 1897 the free employment offices at Cincinnati, Cleveland, Columbus, Toledo, and Dayton received applications from employers for 4,289 males and 14,824 females. Applications for situations were made by 13,159 males and 13,298 females. Positions were secured for 3,912 males and 13,135 females. These figures show a continued increase in the amount of business transacted by the free public employment offices.

CENSUS OF MICHIGAN, 1894.

Census of the State of Michigan, 1894. Volume I, Population, births, marriages, and deaths, churches and libraries, cxlv, 901 pp.; Volume II, Agriculture, manufactures, mines, and fisheries, cv, 893 pp.; Volume III, Soldiers, sailors, and marines, 267 pp. 1896. (Compiled and published by Washington Gardner, Secretary of State.)

The present work is the fifth decennial census taken by the State of Michigan. The report on the census is preceded by a paper on the "Indians of Michigan and the cession of their lands to the United States by Indian treaties." Each volume of the census report contains a summary and analysis, followed by the detailed statistical tables. The data are presented for the State as a whole, and for each county, township, city, and ward.

POPULATION.—The statistics of population are classified according to place of birth, sex, race, age, parent nativity, conjugal condition, occupation, etc. The school attendance, number of illiterates, number of defective persons, and number of families and of dwellings are likewise shown.

Following is a brief summary of the population statistics of the State for 1894:

Total population	2,241,641
Population per square mile	39.45
Native born	1,670,786
Foreign born	570,855
Males	1,160,540
Females	1,081,101
Race and color:	
White	2,218,484
Colored	16,240
Indian	6,760
Chinese	138
Arabian	12
Japanese	7
Conjugal condition:	
Single	1,232,472
Married	902,261
Widowed	98,987
Divorced	7,433
Unknown	488

There was an increase of 7.06 per cent in the population since the United States census of 1890 and of 20.93 per cent since the State census of 1884. In 1894, 74.53 per cent of the population were native and

25.47 per cent were foreign born. The proportion of native to foreign born persons has slightly increased since the census years 1884 and 1890. Of the total population of the State, 51.77 per cent were males and 48.23 per cent were females. The excess of males over females has been steadily decreasing since 1880. In 1894, 40.25 per cent of the total population were married. This was a slight decline since 1884, when the per cent was 40.37. During the three preceding decades there was a steady increase in the proportion of married persons to the total population.

The average age of males was 27.54 years and of females 26.62 years. This is an increase over the averages in 1884 and in 1870. There were 651,920 male persons of voting age, 393,225, or 60.32 per cent, of whom were native and 258,695, or 39.68 per cent, were foreign born. Of the total persons of voting age, 34,545, or 5.30 per cent, were illiterate.

Occupations were reported for 748,008 persons. The following table shows the number of males and females, native and foreign born, engaged in each of five principal groups of occupations:

PERSONS ENGAGED IN FIVE PRINCIPAL GROUPS OF OCCUPATIONS, BY SEX, 1894.

Groups of occupations.	Males.			Females.			Total.
	Native born.	Foreign born.	Total.	Native born.	Foreign born.	Total.	
Agriculture	201,710	84,438	286,148	5,972	1,408	7,380	293,528
Professions	15,703	5,263	20,966	11,169	1,328	12,497	33,463
Domestic and personal service	47,132	46,025	93,157	20,767	13,908	34,675	127,832
Trade and transportation	63,839	30,609	94,448	7,782	1,874	9,656	104,104
Manufacturing, mechanical, and mining industries	89,227	79,923	169,150	14,436	5,495	19,931	189,081
All occupations	417,611	246,258	663,869	60,126	24,013	84,139	748,008

There were 506,779 families enumerated in 1894, which makes an average of 4.42 persons per family. There were 483,685 dwellings, which would allow an average of 4.63 persons to a dwelling. There has been an almost steady decrease since 1850 both in regard to the average number of persons to a family and in the average number of persons to a dwelling.

AGRICULTURE.—The returns show the number, tenure, area, and value of farms; the value of farming implements and of live stock; the acreage, yield, and value of various farm products; the cost of farm labor, etc. There were 178,051 farms enumerated in the State, of which 149,193, or 83.79 per cent, were cultivated by owners; 9,128, or 5.13 per cent, were let for money rental; and 19,730, or 11.08 per cent, were rented for shares of products. The estimated value of the farm products of the State in 1893 was $81,279,006. During the same calendar year $10,742,126 were paid in wages for outdoor labor, and $1,180,944 for indoor labor, both of these figures showing a decrease from the amount paid in the year 1883.

MANUFACTURES, MINES, FISHERIES.—The returns tabulated under this head show the number of establishments, capital invested, number of employees, wages paid, months in operation, character and quantity of motive power, value of material used, and value of product in the manufacturing, mining, and fishery industries of the State. The following statement summarizes the principal returns relating to these industries:

STATISTICS OF MANUFACTURES, MINES, AND FISHERIES, 1894.

Items.	All industries.	Manufactures.	Mines.	Fisheries.
Number of establishments	8,812	8,442	99	271
Capital invested, real and personal	*a* $252,256,205	*b* $186,725,817	*c* $64,767,026	*d* $763,362
Average number of employees:				
Adult males	*e* 146,153	*f* 129,715	15,167	*g* 1,271
Adult females	*h* 15,653	*h* 15,636	2	15
Boys	3,488	3,337	141	10
Girls	356	351	.....	5
Wages paid during census year	*i* $60,188,152	*j* $53,172,382	*d* $6,658,820	*k* $356,950
Average yearly earnings per employee	$365	$360	$438	$284
Average daily wages paid to—				
Skilled mechanics	$1.99	$1.97	$2.06	$1.75
Ordinary laborers	$1.20	$1.18	$1.43	$1.30
Value of material used	*l* $125,743,139	*m* $121,180,594	*n* $4,181,589	*o* $380,956
Value of product	*p* $237,857,772	*q* $225,017,273	*r* $11,764,599	*r* $1,075,900

a Not including 55 establishments not reporting.
b Not including 48 establishments not reporting.
c Not including 6 establishments not reporting.
d Not including 1 establishment not reporting.
e Not including 181 establishments not reporting.
f Not including 165 establishments not reporting.
g Not including 16 establishments not reporting.
h Not including 4 establishments not reporting.
i Not including 358 establishments not reporting.
j Not including 337 establishments not reporting.
k Not including 20 establishments not reporting.
l Not including 333 establishments not reporting.
m Not including 264 establishments not reporting.
n Not including 5 establishments not reporting.
o Not including 64 establishments not reporting.
p Not including 136 establishments not reporting.
q Not including 118 establishments not reporting.
r Not including 9 establishments not reporting.

Comparing the preceding figures with the census returns in 1884, there was shown an increase of 88 in the number of establishments, of $73,414,481 in the capital invested, of 17,226 in the number of males and of 7,368 in the number of females employed, and of $9,434,375 in the amount of wages paid. There was a decrease of 2,482 in the number of children employed.

SOLDIERS, SAILORS, AND MARINES.—These returns present statistics of the number, age, civil condition, and nationality of the Union and Confederate soldiers of the civil war residing in the State; the number, civil condition, and nationality of the United States sailors and marines, and of soldiers of the Mexican war; and the number of the United States soldiers, sailors, and marines who were sick at the time of the enumeration, together with the nature of the sickness or disability. The greater part of the presentation consists of a list of the names of the United States soldiers of the civil war residing in the State.

RECENT FOREIGN STATISTICAL PUBLICATIONS.

BELGIUM.

Travail du Dimanche: Mines, Minières, et Carrières. Volume III, Belgique. Office du Travail, Ministère de l'Industrie et du Travail. 1898. xlv, 500 pp.

The present publication is the third volume of a report by the Belgian bureau of labor on the subject of Sunday work. An outline of the scope of the entire investigation was given in Bulletin No. 7. The first two volumes, which were reviewed in Bulletins Nos. 7 and 13, dealt with Sunday work in manufacturing establishments. This volume is a report on Sunday work in the mining and quarrying industries.

The first part of the present report is made up of statistical tables showing, for 320 establishments engaged in mining and quarrying, and employing 133,428 working people, the extent to which such people were employed on Sundays. The tables are divided into two classes, one relating to regular and the other to irregular Sunday work carried on in the establishments considered. Each of these classes is further divided according to the character of the work, whether (1) of production proper, (2) of repairing, cleaning, and maintenance, or (3) of guarding, transporting, and shipping. The tables show for each establishment the industry, its location, the total number of employees, the number according to age periods, and the percentage of persons employed on Sundays, and for employees engaged in irregular Sunday work the number of Sundays per year on which work was done.

The second part of the report is devoted to a series of brief monographs, each relating to an individual establishment and showing the character of the industry carried on, the number of employees of each sex, the extent and cause of Sunday work, etc.

To show the scope of the report, the number of employees in the 320 establishments considered is brought into comparison in the following table with the total number of persons employed in the mining and quarrying industries, according to an official enumeration taken in 1895:

EMPLOYEES IN THE 320 ESTABLISHMENTS CONSIDERED AND TOTAL EMPLOYEES, IN 1895, IN MINING AND QUARRYING INDUSTRIES, COMPARED.

Industries.	Establishments considered.	Employees considered.	Total employees according to statistics of 1895.	Per cent of employees considered of total, according to statistics of 1895.
Coal mining	127	116,080	118,957	97.58
Manufacture of coke	36	1,929	2,130	90.56
Manufacture of briquettes	28	1,402	(a)	(a)
Metal mining	10	1,318	2,201	59.88
Stone quarrying	119	12,699	31,801	39.93
Total	320	133,428	.....	.....

a Not reported.

It will be seen that the figures considered embraced practically all the coal-mine employees in the State, namely, 97.58 per cent, while in the other industries they embraced from 39.93 to 90.56 per cent of all employees.

Of the 133,428 employees considered, 123,847, or 92.82 per cent, were males, and 9,581, or 7.18 per cent, were females. Of the males 9,069 and of the females 2,275 were under 16 years of age, and 4,897 females were between 16 and 21 years of age, all of whom are specially protected by legislation.

In 45, or 14.06 per cent, of the 320 establishments considered, work was carried on regularly on Sundays; in 141, or 44.06 per cent, both regularly and irregularly on Sundays; in 48, or 15 per cent, at irregular intervals, and in 86, or 26.88 per cent, no Sunday work was carried on. Establishments in operation every Sunday, which include the first two categories, employed 122,526 persons; those working at irregular intervals, 4,736 persons, and those entirely closed on Sundays employed 6,166 persons.

The work done in establishments working regularly on Sundays consisted of productive operations in 36 cases; of repairing, cleaning, and maintenance in 156 cases, and of guarding, transporting, and shipping in 66 cases. The work done in establishments working irregularly on Sundays consisted of productive operations in 56 cases; in repairing, cleaning, and maintenance in 155 cases, and in guarding, transporting, and shipping in 41 cases. The total cases, 510, necessarily exceeds the total number of establishments, as the latter are often repeated in different categories. The following table shows the extent to which the entire force was employed in each of the above-mentioned cases of Sunday labor:

ESTABLISHMENTS ENGAGED IN REGULAR AND IN IRREGULAR SUNDAY WORK, BY PER CENT OF EMPLOYEES AT WORK ON SUNDAY.

Per cent of employees at work on Sunday.	Regular work.			Irregular work.		
	Production.	Repairing, cleaning, and maintenance.	Guarding, transporting, and shipping.	Production.	Repairing, cleaning, and maintenance.	Guarding, transporting, and shipping.
Less than 5 per cent	9	43	53	9	16	5
From 5 to 24 per cent	3	69	2	4	1	1
From 25 to 49 per cent	1	4	.....	6	.....	.....
50 per cent or over	22	.....	.....	.....	.....	.....
Not reported	1	40	11	37	138	35
Total	36	156	66	56	155	41

There were 258 cases in which work was regularly carried on—that is, every Sunday. In 52 of these cases the proportion of employees who worked on Sundays was not reported. In 105 of the remaining 206 cases, or over one-half, less than 5 per cent of the personnel were employed on Sundays, and of those who were thus employed but a very small proportion were engaged in productive work. In only 22,

or about one-tenth of the cases, 50 per cent or more of the employees worked on Sundays, and these were all engaged in productive work. Of the 252 cases in which work was irregularly carried on on Sundays only 42 reported the percentage of employees thus engaged. Of the latter, 30, or about three-fourths, employed less than 5 per cent of the personnel, and all employed less than 50 per cent on Sundays.

In the following table the 510 cases of establishments engaged in Sunday labor are shown by industries:

ESTABLISHMENTS ENGAGED IN REGULAR AND IN IRREGULAR SUNDAY WORK, BY INDUSTRIES.

Industries.	Regular work.				Irregular work.			
	Production.	Repairing, cleaning, and maintenance.	Guarding, transporting, and shipping.	Total.	Production.	Repairing, cleaning, and maintenance.	Guarding, transporting, and shipping.	Total.
Coal mining	2	122	57	181	29	109	30	168
Manufacture of coke	30	3	3	36	9	5	2	16
Manufacture of briquettes	.....	12	2	14	3	9	4	16
Metal mining	.....	6	1	7	2	4	1	7
Stone quarrying (underground)	.....	5	3	8	1	8	1	10
Stone quarrying (surface)	4	8	.....	12	12	20	3	35
Total	36	156	66	258	56	155	41	252

By far the greater part of the Sunday work was done in the coal-mining and coke-manufacturing industries. In the former industry the Sunday work consisted mainly of repairing, cleaning, guarding, transporting, etc., while in the coke manufacture it consisted mostly of productive work. None of the establishments were regularly engaged on Sundays in productive work in the briquette-manufacturing, metal-mining, and underground stone-quarrying industries.

Another subject of interest in this report is the extent to which women and children were engaged in Sunday labor. Women 21 years or over were employed in 159 of the 320 establishments considered. Of these only 43 establishments employed such women on Sundays, 25 of which were coal mines, 16 were coke establishments, and 2 were briquette factories. The metal mines and stone quarries employed no adult women on Sundays.

In 23 coal mines employing adult women regularly on Sundays some of the women were required to attend to the lamps or were employed as doorkeepers and storekeepers. In 6 of these mines women were occasionally employed to load coal on Sundays. In 2 mines women were irregularly employed on Sundays to load coal.

Adult women were employed regularly on Sundays at ordinary work in 13 coke factories, and at intervals only in 2 establishments. In 1 establishment adult women were sometimes required to load coke on Sundays.

In 2 briquette factories adult women were occasionally employed in productive work on Sundays.

In all the industries considered it was found that of the 2,409 women over 21 years of age employed in 320 establishments 133 worked regularly and 115 worked irregularly on Sundays, the total, 248, constituting 10.3 per cent of the entire number of women.

Boys under 16 years of age and girls under 21 years were employed in 250 establishments, or over three-fourths of the whole number considered. Of these establishments but 31 employed boys and girls on Sundays. Thirteen of the latter were coal mines, 15 coke factories, 2 briquette factories, and 1 a metal mine. No boys or girls were employed on Sundays in the stone quarries.

In 11 coal-mining establishments some girls from 16 to 21 years of age were regularly employed on Sundays to look after the lamps, and in 1 of these establishments boys under 16 years of age were regularly employed on Sundays to assist in underground repair work. In 2 coal mines girls from 16 to 21 years of age were sometimes employed in loading coal or unloading wood on Sundays.

In 6 coke factories boys under 16 years of age, in 4 establishments girls under 21 years, and in 2 establishments boys under 16 years and girls under 21 years of age were regularly employed at ordinary labor on Sundays. In 3 other coke factories boys under 16 years of age were occasionally employed at productive work on Sundays.

One briquette factory occasionally employed 4 girls, aged from 16 to 21 years, and one factory employed a boy under 16 years of age, on Sundays.

One metal mine sometimes employed a boy under 16 years of age on Sundays.

In all the establishments considered 67 boys and 6 girls under 16 years of age, and 81 girls aged from 16 to 21 years, were regularly employed on Sundays, and 21 boys under 16 years and 27 girls from 16 to 21 years of age were irregularly employed on Sundays. Thus, of a total of 16,241 boys and girls employed in the industries considered, only 202, or 1.2 per cent, took part in Sunday work.

Travail de Nuit des Ouvrières de l'Industrie dans les Pays Etrangers (France, Suisse, Grande-Bretagne, Autriche, Allemagne). Office du Travail, Ministère de l'Industrie et du Travail. 1898. vii, 271 pp.

The present report of the Belgian labor bureau was prepared by Dr. Maurice Ansiaux. It relates to night work of women in various countries, and is divided into five parts, devoted, respectively, to France, Switzerland, Great Britain, Austria, and the German Empire. Each part comprises a series of chapters in which the following subjects are taken up successively: A discussion of the laws and regulations relating to night work of women; the mode of application of the laws; the social, industrial, moral, and domestic influence exercised in each country by the regulation of the employment of women at night, and proposed changes in the laws and regulations for the purpose of developing or restricting legislation actually in force in the respective countries.

AUSTRIAN BUREAU OF LABOR STATISTICS.

By a resolution of the Emperor, dated July 21, 1898, an official bureau of labor statistics, under the ministry of commerce, has been created in Austria. Its purpose, as set forth in the resolution, is to make investigations and report concerning the "condition of the laboring classes, especially those in manufactures and trade, mining, agriculture, and forestry, and commerce and transportation, and further concerning the working of institutions and laws for the advancement of the welfare of the workingmen, and also concerning the extent and condition of production in the industries which have been named."

In the prosecution of its work the bureau is directed to seek the cooperation of the State and communal authorities, the boards of trade, the workingmen's accident insurance institutions, the trade unions, arbitration courts, and other workingmen's institutions, and these bodies are directed to render all necessary assistance to the labor bureau in carrying out its work.

An important feature of the system created by this resolution is that providing for the constitution of a permanent labor council, the duty of which is to act as an advisory body to the labor bureau, and especially to promote harmonious relations between the bureau and the manufacturers or other persons with whom the former comes in contact in the prosecution of its work. This council will consist of 32 members, of whom 8 will represent the labor bureau and other offices of the Government, and 24 will be persons appointed for a term of three years by the minister of commerce. Of these 24, one-third must be employers of labor, one-third workingmen, and one-third persons whose technical knowledge makes their cooperation in the work of the council desirable. These members will receive no salaries, but those living outside of Vienna will be paid a per diem of 8 gulden ($3.25½) for each attendance at the council in addition to traveling expenses, and the workingmen members resident in Vienna will receive an allowance of 5 gulden ($2.03½) per day's attendance.

This council was constituted on September 25 and the bureau of statistics of labor commenced operations October 1, 1898, with Dr. Victor Mataja as its chief. The bureau will issue a monthly bulletin.

DECISIONS OF COURTS AFFECTING LABOR.

[This subject, begun in Bulletin No. 2, has been continued in successive issues. All material parts of the decisions are reproduced in the words of the courts, indicated when short by quotation marks and when long by being printed solid. In order to save space, immaterial matter, needed simply by way of explanation, is given in the words of the editorial reviser.]

DECISIONS UNDER STATUTORY LAW.

CONSTITUTIONALITY OF STATUTE—PAYMENT OF WAGES IN SCRIP, ETC.—*Haun* v. *State, 54 Pacific Reporter, page 130.*—C. L. Haun was convicted of a misdemeanor in the district court of Crawford County, Kans., for a violation of the provisions of chapter 145, Laws of Kansas of 1897. The title and body of the act read as follows:

AN ACT to secure to laborers and others the payment of their wages, and prescribing a penalty for the violation of this act, and repealing section[s] 2441, 2442 and 2443 of the General Statutes of 1889, and all acts and parts of acts in conflict herewith.

SECTION 1. It shall be unlawful for any person, firm, company, corporation, or trust, or the agent, or the business manager of any such person, firm, company, corporation or trust to sell, give, deliver, or in any way directly or indirectly to any person employed by him or it, in payment of wages due or to become due, any scrip, token, check, draft, order, credit on any book of account or other evidence of indebtedness, payable to bearer or his assignee, otherwise than at the date of issue, but such wages shall be paid only in lawful money of the United States, or by check or draft drawn upon some bank in which any person, firm, company, corporation, or trust, or the agent, or the business manager of any such person, firm, company, corporation, or trust, has money upon deposit to cash the same.

SEC. 2. All contracts to pay or accept wages in any other than lawful money, or by check or draft, as specified in section one, of this act, and any private agreement or secret understanding that wages shall be or may be paid, in other than lawful money, or by such check or draft, shall be void, and the procurement of such private agreement or secret understanding, shall be unlawful and construed as coercion on the part of the employer.

SEC. 3. If any person shall violate any of the provisions of either section one or two of this act, or shall compel, or in any manner attempt to compel, or coerce any employee of any corporation, or trust to purchase goods, or supplies, from any particular person, firm, corporation, company or trust or at any particular store or place, he shall be guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than one hundred dollars nor more than five hundred dollars, or be imprisoned in the county jail not less than thirty or more than ninety days, or by both such fine and imprisonment for each violation.

SEC. 4. This act shall apply only to corporations or trusts or their agents, lessees, or business managers, that employ ten or more persons.

SEC. 5. The county attorney of any county upon complaint made to him shall proceed to prosecute the violators of this act as prescribed in other cases of misdemeanor.

SEC. 6. Sections 2441, 2442 and 2443 of the General Statutes of Kansas, of 1889, and all acts and parts of acts in conflict with the provisions of this act are hereby repealed.

SEC. 7. This act shall take effect and be in force from and after its publication in the official State paper.

It was charged that Haun was agent and cashier of the Kansas Commercial Coal Company, "a corporation doing business in Crawford County, Kans., in operating coal mines, and employing more than ten persons in operating said mines," and that as such agent and cashier he did unlawfully, and on behalf of the coal company, sell, give, and deliver a certain order commonly called a "punch check" to one E. P. Graves, a miner employed by the corporation, for wages then earned by said Graves but not yet due and payable. The check read: "$2.00. Fuller, Kan., 9-22-1897. Kansas Commercial Coal Co.: Please accept this as my order for store merchandise to the amount of two dollars, and charge the same to my account. Not transferable. E. P. Graves. No. 452." Trial by jury was waived and the case was submitted to the court upon an agreed statement of facts, which, in addition to admitting the foregoing allegations of the information, stipulated that the order or punch check was issued to Graves "only upon the application and request of said Graves, and between the pay days of the said Kansas Commercial Coal Company, and at the time when no wages were due and payable to the said Graves by the contract under which the said Graves was then and there performing labor for the Kansas Commercial Coal Company." Upon his conviction Haun appealed the case to the court of appeals of the State, which rendered its decision August 15, 1898, sustaining the judgment of the lower court and affirming the constitutionality of the law in question.

The opinion of said court was delivered by Judge Milton, and in the course of the same he used the following language:

As section 4 expressly limits the application of the statute to corporations or trusts employing 10 or more persons, it follows that all parts thereof inconsistent with this limitation must fall. The provision of section 3 concerning coercion of employees in respect to purchase of goods or supplies is clearly not within the scope of the act as indicated by its title, and consequently can not be regarded as a valid part of the act. Eliminating these provisions, the act in substance provides: First, that it shall be unlawful for any corporation or trust which employs 10 or more persons to pay the wages of its employees otherwise than in lawful money, or in checks or drafts drawn against bank deposits of money; second, that all contracts for other kinds of payment shall be void, and procurement of such contracts shall be construed as coercion on the part of the employer; third, that any violation of the provisions of section 1 or 2 of the act shall be a misdemeanor. "Trusts," as used in the act, has been regarded by counsel as being equivalent to "corporations," and we shall consider the case with reference to corporations alone. In the trial court the defendant

challenged the constitutionality of this act, and the grounds of such challenge are now presented to this court.

1. It is claimed that the act is in conflict with section 17 of article 2 of the State constitution, which reads: "All laws of a general nature shall have a uniform operation throughout the State; and in all cases where a general law can be made applicable no special law shall be enacted." It is urged that this legislation is void, for the reason that it singles out certain corporations—that is, those which severally employ 10 or more persons—and arbitrarily deprives them of rights and privileges which are retained by all other corporations and trusts and by individuals. We regard this objection as untenable. In the case of McAunich *v.* Railroad Co., 20 Iowa, 343, in considering an objection to a certain law as being class legislation, the court said: "These laws are general and uniform, not because they operate upon every person in the State, for they do not, but because every person who is brought within the relations and circumstances provided for is affected by the law. They are general and uniform in their operation upon all persons in the like situation, and the fact of their being general and uniform is not affected by the number of persons within the scope of their operation." The above is quoted with approval by the Supreme Court of the United States in the case of Chicago, B. & Q. R. Co. *v.* Iowa, 94 U. S., 163.

2. It is earnestly contended that this act violates the first clause of section 16 of article 2 of the State constitution, which provides that no bill shall contain more than one subject, which shall be clearly expressed in its title. Counsel for appellant say that a reading of this title shows the subject of the legislation is to secure to laborers the payment of their wages, not necessarily in money, but in anything, or in any manner, or at any time the parties choose to fix. We quote from their brief: "The title conveys to the mind three ideas: First, that its purpose is 'to secure' to laborers the payment of their wages; second, the infliction of a penalty for doing anything to prevent the securing of the payment; third, that certain sections of the Revised Statutes and any other conflicting enactments are repealed. This may be further simplified by stating that the title conveys nothing more than that the purpose of the act is to make safe the payment to laborers of their wages. If, therefore, the act does anything more than secure the payment of wages, it infringes the mandate of the constitution." Reading the act itself, it is clear that its object is to require each corporation which employs 10 or more persons to pay the wages of its employees in money or in checks or drafts drawn against bank deposits of money by declaring any other mode or kind of payment unlawful. The phrase "to secure" is not used in the sense of "to give security." In the Century Dictionary, "to obtain" and "to give" are given as synonyms of the verb "to secure;" while in the Standard Dictionary "get," "obtain," and "attain" are given as its synonyms. One definition of "to attain" given in Webster's International Dictionary is "to procure." One of the meanings of "to secure" given in Anderson's Dictionary of Law is "to procure." The word "payment" is thus defined in the Century Dictionary: "The act of paying; the delivery of money as payment in the course of business." In Bouv. Law Dict. (15th ed.), under the word "payment," it is said: "It is now the law for all classes of citizens that payment must be made by money, unless the obligation is, by the terms of the instrument creating it, to be discharged by other means." Rap. & L. Law Dict. thus defines "payment:" "A transfer of money from one person (the payor) to another (the payee)." Worcester defines the word "wages" as follows: "In ordinary language

the term 'wages' is usually employed to designate the sums paid to persons hired to perform manual labor." Employing some of the foregoing definitions, the title under consideration may be read, "An act to procure, get, or obtain for laborers the payment of their wages in money," etc. To secure conveys the idea of certainty of the hold which one gets or obtains. It is this certainty which the present law intends to bring about. Such intention is plainly manifest in the language employed in the title. It is evident that the title of the act is broader than the act itself as limited by section 4 thereof, but this does not invalidate the act.

3. It is contended that the act is repugnant to section 1 of the fourteenth amendment to the Constitution of the United States, wherein it is provided that no State shall deprive any person of life, liberty, or property without due process of law; and also contrary to the provisions of section 1 of the bill of rights of the State constitution, which reads, "All men are possessed of equal and inalienable natural rights, among which are life, liberty, and the pursuit of happiness." This objection has been presented with great vigor and ability. An investigation of the authorities has shown that laws similar in principle to the present act have been upheld as to corporations, on the ground of legislative authority to amend corporate charters. We believe no case has been pointed out where such an enactment has been unqualifiedly declared to be a valid exercise of the police powers of the State in respect to natural persons. The question which we shall consider is whether the legislature, in enacting the present law, has or has not exceeded its constitutional power to amend corporate charters. Section 1 of article 12 of the constitution of the State reads: "The legislature shall pass no special act conferring corporate power. Corporations may be created under general laws, but all such laws may be amended or repealed." In the case of State *v.* Railway Co., 33 Kan., 176, 189, 5 Pac., 772, it was held that whatever corporate rights or powers certain railroad companies, the parties defendant in that action, had obtained under or by virtue of the laws of the State, such rights were subject to modification or change by amendment or repeal of the laws which granted such rights and powers. In the case of Shaffer *v.* Mining Co. [55 Md., 74], an act entitled "An act to prohibit the payment of employees of certain corporations operating in Allegany County otherwise than in legal tender money of the United States," was declared to be within the reserve power of the legislature to amend corporate charters. The act applied only to corporations engaged in mining or manufacturing or operating a railroad in Allegany County, and severally employing 10 or more persons. The court, by Mr. Justice Irving, said: "It being conceded that the legislature, when it incorporated the Union Mining Company, reserved the right to amend or alter its charter at pleasure, there can be no doubt that the legislature could enact a law prohibiting the corporations from paying its employees otherwise than in money, and that it could forbid the corporations from making contracts with them for payment in anything but money. * * * The acceptance by a corporation of a charter with the reservation of the right to alter and amend made that provision a part of the contract, which, as between the legislature and it as a private corporation, it must be understood to be. A corporation has no inherent or natural rights like a citizen. It has no rights but those which are expressly conferred upon it, or are necessarily inferable from the powers actually granted. A private corporation is only a quasi individual, the pure creation of the legislative will, with just such powers as are conferred expressly or by necessary implication, and none others.

Whatever, therefore, may have been the mischief intended to be reached and prevented by this law by restrictions imposed upon the corporations, it was competent for the legislature by this law, which operates as an amendment of its charter, to accomplish."

Incidentally it may be observed that there is room for doubt concerning the power of the Kansas Commercial Coal Company, which we assume, in the absence of evidence, to have been organized under the statutes of this State, or under similar laws, to issue scrip or punch checks as a means of payment of wages due its employees. The record in this [case] indicates that it was the practice of the coal company to issue such checks to its employees, and to receive the same in payment for merchandise. Sec. 13, c. 66, Gen. St. 1897, reads in part: "Every corporation, as such, has power: * * * Seventh, to enter into any obligation or contract essential to the transaction of its ordinary affairs." It will be seen that this statute does not grant to corporations the full powers of contracting which are possessed by individuals; on the contrary, it expressly limits their powers in this regard. The language of the limitations is very plain. The ordinary affairs of a corporation are those which it is chartered to engage in, and it has authority to enter into contracts essential to the transaction of such affairs; but it has no authority to enter into contracts not so essential to, or not actually connected with, the business or enterprise for which it was chartered.

From the foregoing it would seem that the present act does not invade any clear and unquestionable right of the corporation here concerned; and we think it proper to hold, as against the objection that the act is unconstitutional because it invades the inherent rights of corporations, is not well founded. The record contains nothing to indicate that payment of the wages of its employees otherwise than in money, or in checks or drafts drawn upon bank deposits of money, was or is essential to the transaction of the ordinary affairs of the Kansas Commercial Coal Company. But it is not intended to rest the decision in this case upon the proposition just considered. We prefer to rest it, and do rest it, upon the basis of a constitutional exercise by the legislature of its powers to amend corporate charters. If corporations created under our laws possessed the power to pay the wages of their employees otherwise than in money, and to make binding contracts for such payment, such power no longer exists on the part of any corporation coming within the purview of the present act. The power in question has been taken away from each of such corporations by this act, which, by its title, purports to repeal "all acts and parts of acts in conflict herewith."

We do [not?] understand that any claim as to the insufficiency of the title concerning this matter has been raised by counsel. As at present advised, we see no reason to doubt its sufficiency. The record shows that appellant violated the act under consideration. Holding the act to be constitutional, the judgment of the district court will be affirmed.

CONSTITUTIONALITY OF STATUTE—SUNDAY LABOR—*Nesbit v. State, 54 Pacific Reporter, page 326.*—John Nesbit was convicted in the district court of Leavenworth County, Kans., of violating section 298 of chapter 100 of the General Statutes of Kansas of 1897, prohibiting labor on Sunday. He carried the case to the court of appeals of the State upon writ of error and said court rendered its decision September 17, 1898, and affirmed the judgment of the lower court.

The opinion of the court of appeals, delivered by Judge McElroy, contains the following language, showing the principal point of the decision:

The appellant contends that the statute under which he was prosecuted is unconstitutional. Section 298: "Every person who shall either labor himself, or compel his apprentice, servant or any other person under his charge or control to labor or perform any work other than the household offices of daily necessity, or other work of necessity or charity, on the first day of the week, commonly called Sunday, shall be deemed guilty of a misdemeanor and fined not to exceed twenty-five dollars." Nearly all the States of the Union have enacted similar statutes. These statutes have usually been held to be constitutional, and within the proper exercise of legislative power. The legislature has the power to make such laws as are necessary to preserve the public health, and protect the public safety of the people. In the exercise of that power, the legislature has the right, within certain limitations, to determine what laws are necessary to accomplish that purpose. The statute in question is within the municipal or police regulations.

The statute under consideration is not class legislation, nor does it violate any of the provisions of the constitution. It is clearly within the constitutional power of the legislature to require this cessation of labor for one day in seven, and to designate the day of rest. The act under consideration is therefore constitutional, and a valid police regulation.

The judgment of the trial court must be affirmed.

CRIMINAL LAW — CORPORATIONS — EIGHT-HOUR LAW—*United States v. John Kelso Co., 86 Federal Reporter, page 304.*—This case was heard in the United States district court for the northern district of California, and the court rendered its decision, disallowing the claim of the defendant company, on April 11, 1898.

The opinion of the court was delivered by District Judge De Haven, and the following, quoted therefrom, shows the facts in the case and the important point of the decision:

On October 9, 1897, there was filed in this court, by the United States district attorney for this district, an information charging the defendant, a corporation, with the violation of "An act relating to the limitation of the hours of daily service of laborers and mechanics employed upon the public works of the United States and of the District of Columbia," approved August 1, 1892 (2 Supp. Rev. St., p. 62) [chap. 352, acts of 1891-92]. Upon the filing of this information, the court, upon motion of the district attorney, directed that a summons in the general form prescribed by section 1390 of the Penal Code of this State [California], be served upon said corporation, and accordingly on said date a summons was issued, directing the defendant to appear before the judge of said court in the court room of the United States district court for this district on the 21st day of October, 1897, to answer the charge contained in the information. The summons stated generally the nature of the charge, and for a more complete statement of such offense referred to the information on file. On the day named in said summons for its appearance, the defendant corporation appeared specially by its attorney, and moved to quash the sum-

mons, and to set aside the service thereof, upon grounds hereinafter stated. Upon the argument of this motion, it was claimed in behalf of the defendant: First, that the act of Congress above referred to does not apply to corporations, because the intention is a necessary element of the crime therein defined, and a corporation as such is incapable of entertaining a criminal intention; * * *

It will be seen that the first objection goes directly to the sufficiency of the information, and presents precisely the same question as would a general demurrer, attacking the information on the ground of an alleged failure to charge the defendant with the commission of a public offense. Section 1 of that act [above referred to] makes it unlawful for a contractor or subcontractor upon any of the public works of the United States, whose duty it shall be to employ, direct, or control the services of laborers or mechanics upon such public works, "to require or permit any such laborer or mechanic to work more than eight hours in any calendar day except in case of extraordinary emergency." And section 2 of the act provides "that * * * any contractor whose duty it shall be to employ, direct, or control any laborer or mechanic employed upon any public works of the United States * * * who shall intentionally violate any provision of this act, shall be deemed guilty of a misdemeanor, and for each and every offense shall upon conviction be punished by a fine not to exceed one thousand dollars or by imprisonment for not more than six months, or by both such fine and imprisonment, in the discretion of the court having jurisdiction thereof."

It will be observed that by the express language of this statute there must be an intentional violation of its provisions, in order to constitute the offense which the statute defines. In view of this express declaration, it is claimed in behalf of defendant that the act is not applicable to corporations, because it is not possible for a corporation to commit the crime described in the statute. The argument advanced to sustain this position is, in substance, this: That a corporation is only an artificial creation, without animate body or mind, and therefore, from its very nature, incapable of entertaining the specific intention which, by the statute, is made an essential element of the crime therein defined. The case of State *v.* Great Works M. & M. Co., 20 Me., 41, supports this proposition, and it must be conceded that there are to be found dicta in many other cases to the effect that a corporation is not amenable to prosecution for a positive act of misfeasance, involving a specific intention to do an unlawful act. In a general sense, it may be said that no crime can be committed without a joint operation of act and intention. In many crimes, however, the only intention required is an intention to do the prohibited act—that is to say, the crime is complete when the prohibited act has been intentionally done; and the more recent and better considered cases hold that a corporation may be charged with an offense which only involves this kind of intention, and may be properly convicted when, in its corporate capacity, and by direction of those controlling its corporate action, it does the prohibited act. In such a case the intention of its directors that the prohibited act should be done is imputed to the corporation itself.

Of course, there are certain crimes of which a corporation can not be guilty; as, for instance, bigamy, perjury, rape, murder, and other offenses, which will readily suggest themselves to the mind. Crimes like these just mentioned can only be committed by natural persons, and statutes in relation thereto are for this reason never construed as referring to corporations; but when a statute in general terms prohibits

the doing of an act which can be performed by a corporation, and does not expressly exempt corporations from its provisions, there is no reason why such statute should be construed as not applying to them, when the punishment provided for its infraction is one that can be inflicted upon a corporation, as, for instance, a fine. In the act of Congress now under consideration it is made an offense for any contractor or subcontractor whose duty it shall be to employ, direct, or control any laborer employed upon any of the public works of the United States, to require or permit such laborer to work more than eight hours in any calendar day. A corporation may be a contractor or subcontractor in carrying on public works of the United States, and as such it has the power or capacity to violate this provision of the law. Corporations are, therefore, within the letter, and, as it is as much against the policy of the law for a corporation to violate these provisions as for a natural person so to do, they are also within the spirit of this statute; and no reason is perceived why a corporation which does the prohibited act should be exempt from the punishment prescribed therefor. If the law were capable of the construction contended for by the defendant, the result would be that a corporation, in contracting for the doing of any public work, would be given a privilege denied to a natural person. Such an intention should not be imputed to Congress, unless its language will admit of no other interpretation. The motion of the defendant will be denied.

EIGHT HOUR LAW—APPLICATION OF STATUTE—*United States v. San Francisco Bridge Co., 88 Federal Reporter, page 891.*—This case was heard in the United States district court for the northern district of California. The decision of the court was rendered June 25, 1898.

The opinion of said court was delivered by District Judge De Haven, and so much of said opinion as shows the facts in the case and the important part of the decision is quoted below:

The defendant has been convicted of the violation of "An act relating to the limitation of the hours of daily service of laborers and mechanics employed upon the public works of the United States and of the District of Columbia," approved August 1, 1892 [chap. 352, acts of 1891–92], and has interposed a motion for an arrest of judgment. Section 1 of the act referred to makes it unlawful for any officer of the United States government or of the District of Columbia, or for any contractor or subcontractor whose duty it shall be to employ, direct, or control the services of laborers or mechanics upon public works of the United States or of the District of Columbia, "to require or permit any such laborer or mechanic to work more than eight hours in any calendar day except in case of extraordinary emergency." By section 2 of the act it is provided "that any officer or agent of the government of the United States or of the District of Columbia, or any contractor or subcontractor whose duty it shall be to employ, direct, or control any laborer or mechanic employed upon any of the public works of the United States or of the District of Columbia who shall intentionally violate any provision of this act, shall be deemed guilty of a misdemeanor."

The information charges that the defendant was a contractor upon public works of the United States, to wit, the new post-office of the United States in the city and county of San Francisco; that as such contractor its duty was to employ, direct, and control laborers employed

and working thereon; and that the defendant did on the 1st day of December, 1897, in violation of the act of Congress above referred to, "require and permit said laborers to work more than eight hours in the calendar day last aforesaid, to wit, nine hours and forty minutes in such day, upon said contract and public works, there being then and there no case of extraordinary emergency for the employment of such laborers for the length of time last aforesaid, or for any length of time in excess of said eight hours in said calendar day."

The motion in arrest of judgment is based upon two grounds: * * *, second, because it is not alleged in the information, nor was the fact proved upon the trial, that the United States has exclusive jurisdiction over the land upon which the post-office referred to in the information is being constructed.

Section 8 of article 1 of the Constitution provides that Congress shall have power "to exercise exclusive legislation in all cases whatsoever, over such district (not exceeding ten miles square) as may, by cession of particular States, and the acceptance of Congress, become the seat of the government of the United States, and to exercise like authority over all places purchased by the consent of the legislature of the State in which the same shall be, for the erection of forts, magazines, arsenals, dockyards, and other needful buildings." It is not alleged in the information, nor does the fact otherwise appear, that the land upon which the new San Francisco post-office is being constructed was purchased by the United States with the consent of the State, or that political jurisdiction over the same has been otherwise ceded to the United States by the State. Upon this state of facts, it must be held that the State of California retains complete and exclusive political jurisdiction over such land, and, this being so, there can be no question that persons there committing murder, or any other offense denounced by its laws, would be subject to trial and punishment by the courts of the State. * * * In the case last cited [U. S. *v.* Cornell, 2 Mason, 60, Fed. Cas. No. 14867] it was said by Mr. Justice Story:

"But although the United States may well purchase and hold lands for public purposes, within the territorial limits of a State, this does not, of itself, oust the jurisdiction of sovereignty of such State over the lands so purchased. It remains until the State has relinquished its authority over the land, either expressly or by necessary implication."

In view of this principle of constitutional law, it is now urged that this court is without jurisdiction to pronounce judgment upon the verdict, and that the act of Congress should be construed as only applying to public works upon land over which the United States has the right, under the Constitution, to exercise exclusive political jurisdiction and dominion; that is to say, that it should be construed as applying only to public works in the District of Columbia or in the Territories of the United States, or upon lands purchased by the United States with the consent of the State, for the erection of forts, magazines, arsenals, dockyards, and other needful buildings. In support of this position, counsel for the defendant has argued, with great earnestness, that, unless so construed, the statute can not be upheld, because Congress has no power to legislate in regard to the number of hours laborers shall be permitted to work each day in places or upon land not within the exclusive political jurisdiction of the United States. The statute under consideration, however, by its express terms, is applicable only to the public works of the United States and of the District of Columbia; so that the question presented here is not whether Congress possesses the power to legislate generally in regard to the number

of hours laborers shall be permitted to work in any one day when engaged in the construction of some building or in some other employment over which the United States has no right to exercise any supervision or control, but rather this: Has Congress the power to prescribe the terms and conditions under which labor shall be performed in the construction of public works of the United States, and without reference to the fact whether such public works are or are not upon land over which the National Government exercises exclusive political jurisdiction? I entertain no doubt of the authority of Congress in this respect. Public works are instrumentalities for the execution of the powers of government. In the construction of its public works, the United States exercises a power which belongs to it as a sovereign nation, and, as a necessary incident of its sovereignty, has the right to legislate in regard to all matters relating to the construction of such works, including the number of hours which shall constitute a day's labor for those employed thereon. Laws have been passed limiting the hours for the labor of letter carriers in any one day; and for those employed in the navy-yards of the United States; and for all laborers and mechanics employed "by or on behalf of the government of the United States;" and the power of Congress to pass such laws has never been seriously questioned. In my opinion, Congress may also provide that laborers upon public works of the United States, whether employed directly by the Government or by a public contractor, shall not be required or permitted to work more than eight hours in one day, and may compel obedience to such a law by providing that its violation shall constitute an offense against the United States, and be punished as such. Nor is the power of Congress to thus legislate in the least impaired or affected by the fact that such public works may be erected upon land over which the State retains political jurisdiction, as the sovereignty of the State does not extend to matters connected with or incident to the construction of public works of the United States; and Congress in providing, as it has, for the punishment of any contractor upon such public works, or any officer of the United States who should violate the provisions of the law under consideration, was not legislating upon a subject which in any manner trenches upon the reserved powers of the State. The subject-matter of the law is one which concerns only the government of the United States, and over which it has the right to exercise supreme and exclusive control, notwithstanding the fact that the State, for all purposes relating to the government of the State and the administration of its laws, retains political jurisdiction over the land upon which such public works may be erected. This conclusion necessarily results from a consideration of the fact that, under American constitutional law, the National Government and the States which compose it are clothed with separate powers of sovereignty in relation to the subjects within their respective constitutional spheres of action, and each may therefore exercise the powers pertaining to its own sovereignty without coming into conflict with the other. This view is in harmony with what was said by Chief Justice Taney in delivering the opinion of the Supreme Court of the United States in Ableman *v.* Booth, 21 How., 516:

"The powers of the General Government and of the State, although both exist and are exercised within the same territorial limits, are yet separate and distinct sovereignties, acting separately and independently of each other, within their respective spheres."

The motion will be denied.

SEAMEN'S WAGES—DESERTION—EVIDENCE FROM LOG—*The Victorian, 88 Federal Reporter, page 797.*—This was a libel *in rem* brought by Lawrence Goldspring and Michael Moore against the steamship Victorian to recover seamen's wages. The case was heard in the United States district court for the district of Washington, northern division, and the decision of the court was rendered July 12, 1898, dismissing the libel on the ground that as the libelants had deserted from the steamship they could not recover the wages sued for.

The opinion of the court was delivered by District Judge Hanford; it contains a statement of the facts in the case and reads as follows:

The libelants, after signing articles for a voyage from Seattle, via Victoria, to Alaska and return, entered into the service of the vessel, but left her on the third day at Victoria, and were there arrested on a criminal charge, and detained until after the vessel had proceeded on her voyage, when they were released for want of evidence to sustain the accusation against them. The claimant denies any liability, and insists that the libelants forfeited their wages by desertion. The official log book has not been introduced in evidence, and there is no proof that any entry was made therein of desertion, or any other offense committed by the libelants, and it is insisted that they can not be treated as deserters by the court in this proceeding without proof that they were duly logged as deserters at the time, as provided by section 4597, Rev. St. U. S. I would sustain the contention of the libelants' proctor, and refuse to consider evidence of desertion, in the exercise of the discretion authorized by section 4597, if that statute were applicable in this case. The provisions of sections 4290–4292, 4596, and 4597, requiring official log books to be kept, and records of offenses to be made therein, are all part of a general and comprehensive statute prescribing the manner of shipping crews for American merchant vessels, and relating to the discipline and discharge of seamen, enacted in the year 1872. (17 Stat., 262.) This statute, however, is limited by an act of Congress approved June 9, 1874 (18 Stat., 64), which provides that none of the provisions of the act of 1872 "shall apply to sail or steam vessels engaged in the coastwise trade, except the coastwise trade between the Atlantic and Pacific coasts, or in the lake-going trade touching at foreign ports or otherwise, or in the trade between the United States and the British American possessions, or in any case where the seamen are by custom or agreement entitled to participate in the profits or result of a cruise, or voyage." By the second section of the act of June 19, 1886 (1 Supp. Rev. St. U. S. [2d ed.], 493), it is provided "that shipping commissioners may ship and discharge crews for any vessel engaged in the coastwise trade, or the trade between the United States and the Dominion of Canada, or Newfoundland, or the West Indies, or the Republic of Mexico, at the request of the master or owner of such vessel;" and by the act of August 19, 1890 (1 Supp. Rev. St. U. S. [2d ed.], 780), the provisions of sections 4596 and 4597 are extended, and made applicable to vessels in the coastwise trade and the trade between the United States and the Dominion of Canada, or Newfoundland, or the West Indies, or Mexico, where the crews of such vessels have been shipped by a shipping commissioner, as authorized by the act of 1886. And finally, by the act of February 18, 1895 (28 Stat., 667), the act of August 19, 1890, was so revised and amended as to cut out entirely sections 4596 and 4597, and to exempt vessels engaged

in the coastwise trade (except between ports on the Atlantic and ports on the Pacific coast) and vessels engaged in trade between ports of the United States and the Dominion of Canada from the requirements of the act of 1872 as to keeping official log books. There is, therefore, no statute in force requiring the production of an official log book containing evidence of desertion of any of the crew from the steamship Victorian while on a voyage from Puget Sound to British Columbia or Alaska, and there is no rule applicable to this case contrary to the general admiralty law which deprives a deserter of all right to sue for and recover wages for his unperformed contract. The evidence is clear and convincing that both of the libelants did willfully desert the vessel at Victoria. A decree of dismissal will be entered.

DECISIONS UNDER COMMON LAW.

EMPLOYERS' LIABILITY—DUTIES OF THE EMPLOYER—ASSUMPTION OF RISKS BY EMPLOYEE, ETC.—*Chielinsky v. Hoopes & Townsend Co., 40 Atlantic Reporter, page 1127.*—This action was brought by Herman Chielinsky, by his next friend, Maximilian Chielinsky, against the above-named company, to recover damages for the loss of a left arm caused, as alleged, through the negligence of said company.

The case was heard in the superior court of Delaware in the May term of 1894, and Chief Justice Lore gave the charge to the jury, rehearsing the facts in the case and laying down the law applicable thereto. The verdict was rendered in favor of the plaintiff. The following is quoted from the charge of the chief justice:

This is an action upon the case, brought by Herman Chielinsky, by his next friend, Maximilian Chielinsky, the plaintiff, against the Hoopes & Townsend Company, a corporation of this State, the defendant, to recover damages for the loss of his left arm, which Chielinsky alleges resulted through the negligence of the defendant company. The defendant company were manufacturers of bolts, nuts, and rivets, by machinery, at the time of the accident, December 13, 1892. Chielinsky, the plaintiff, who was a boy then 13 years 4½ months of age, was in the employ of this company, running a machine putting the nuts on bolts. The machine was run by steam, with two belts, one from the machine to the counter shaft, and the other from the counter shaft to the line shaft. On the day named, the belt from the counter to the line shaft came off, when the machine was started in the afternoon; and the plaintiff Chielinsky went up upon the stringers, stretched his body upon them, and then reached his arm down to the line shaft, about 14 inches below, and was putting on the belt, when a set screw caught his sleeve, drew his arm around the main shaft, crushing and mangling it, so that it had to be amputated. Chielinsky had been working on this machine from December 2 to December 13, 1892, and previously in the storeroom, putting on nuts by hand, from November 6 to December 2, 1892. The plaintiff claims that putting on the belt on the line shaft was dangerous work for a boy of his age and experience; that there were latent dangers not known or patent to the plaintiff; that the defendant, with full knowledge of these dangers, did not at any time give proper instructions as to the danger, and even directed and permitted the plaintiff, with other

like boys, in his sight and knowledge, to engage in this dangerous work. The defendant claims that, at the time the plaintiff was put to work on this machine, he was properly instructed as to his duty; that the putting on of the line belt was not a part of his duty or work, but that of another employee, specially provided therefor, and that when he was hurt he was out of the line of his employment, and doing that which the company neither directed nor permitted him to do; that the injury was the result of his own negligence.

The plaintiff and the defendant held the relation of master and servant at the time of the accident. There are certain legal duties this relation imposes upon each party. It is the duty of the master to provide his servant with a reasonably safe place in which to do his work and reasonably safe machinery to work with or upon, and to so keep them. Where the employment is dangerous, it is the master's like duty to warn and instruct his servant as to the dangerous character of it, if, by reason of youth or inexperience, the servant be unacquainted with such danger. The measure of such instruction must in all cases be gauged by such youth and inexperience. The particularity and extent of this instruction are limited, however, by the right of the master to presume, in the absence of knowledge to the contrary, that the servant has the knowledge, discretion, and experience of the average servant of his age and intelligence. It is the duty of the servant to obey and follow the instructions and orders as to his duty given him by the master or his authorized agent. The servant assumes the ordinary and usual risks of his employment, whatever they may be, and also those risks, whether patent or latent, which are within his knowledge. It is the duty of the servant, in dangerous or other employment, to exercise reasonable care and diligence to avoid accident. Such care and diligence must be greater or less according to the danger in each case. You should apply these rules relating to master and servant in determining this case.

The case seems to us to lie in a narrow compass. The loss of the arm was caused by the attempt of Chielinsky to put the belt on the line shaft. The sharp question for you to decide is, was Chielinsky on the 13th of December, 1892, on those stringers, putting on the belt, in the exercise and proper discharge of his duty, or was he there of his own motion, and out of the line of his duty and instruction? We understand it is conceded that the putting on of the belt of the line shaft was dangerous work for a boy of his age and experience. If Chielinsky climbed up on those stringers that day, and tried to put the belt on in pursuance of the instruction, or with the knowledge and consent of the company, and without knowing the danger to which he exposed himself, the company was negligent, and the plaintiff is entitled to recover. And this would be so even if the company had previously instructed him not to go there, if afterwards they had permitted or induced him to go by permitting him or other like boys to do that work. Under the decisions of this State, even if Chielinsky were guilty of some negligence, yet, if the defendant was guilty of the negligence which was the proximate cause of the injury, still Chielinsky would be entitled to recover. If, on the other hand, Chielinsky attempted to put on the belt of his own motion, out of the line of his employment, without the order or the consent of the company, he can not recover. In that case he took the risk, and must take the consequences of his own act. The negligence of the defendant is the ground of the plaintiff's right to recover, and the burden is on the plaintiff to prove such negligence to your satisfaction, by a preponderance of the evidence.

If you should find for the plaintiff, he is entitled to recover for his pain and suffering, and for all permanent injuries sustained by him by reason of his accident. The amount of damages, should you find for the plaintiff, should be a reasonable compensation for the injury he has sustained, in your discretion.

EMPLOYERS' LIABILITY—FELLOW-SERVANTS—*Cates v. Itner, 30 Southeastern Reporter, page 884.*—This suit was brought by Newton Cates against Nicholas Itner, his employer, in the city court of Atlanta, Ga., to recover damages for injuries received while in his employ. A judgment was rendered for the defendant and the plaintiff, Cates, carried the case up to the supreme court of the State upon a writ of error. Said court rendered its decision June 7, 1898, and affirmed the decision of the lower court.

The facts of the case are not given but the nature of the decision rendered is shown in the opinion of the supreme court, which was delivered by Chief Justice Simmons. The syllabus of the same, which was prepared by the court, reads as follows:

A workman engaged in the same job with others, and having direction of it, is not a vice principal of the master, but stands on the footing of a mere fellow-servant.

EMPLOYERS' LIABILITY—NEGLIGENCE OF EMPLOYER—FELLOW-SERVANTS—*Dahlke v. Illinois Steel Co., 76 Northwestern Reporter, page 362.*—This action was brought by Ferdinand Dahlke, administrator of the estate of Charles Dahlke, deceased, against the above-named company, to recover damages for the death of said Charles Dahlke caused, as alleged, by the negligence of said company. The case was heard in the superior court of Milwaukee County, Wis., and after hearing the evidence the court took the case from the jury and rendered a judgment in favor of the defendant company. The plaintiff appealed the case to the supreme court of the State, which rendered its decision September 20, 1898, and affirmed the judgment of the lower court.

The evidence showed that one Kilz, an employee of the defendant, had charge of the cylindrical iron stoves, three of which were used with each blast furnace of the company, being designed to heat the air before it entered the furnaces; that the deceased, Dahlke, and one Rendt, both common laborers in the employ of said company, were assistants to Kilz; that several of the stove doors were marked with chalk which indicated that they needed repairing; that pursuant to the direction of Kilz and in his presence Dahlke and Rendt repacked one of the doors of stove No. 1, and that Kilz then went away; that they then went to stove No. 2 and repaired a door and then returned to stove No. 1 to tighten the second door, which was marked, showing

need of repair; that in the meantime Kilz had turned on the blast, rendering it dangerous to work at the door, but neither Rendt nor the deceased knew that the blast was on or that there was danger when it was on; and that while Rendt was in the act of tightening one of the nuts on the door the bolt broke and the pressure of air from the inside threw it off its fastenings and the fire burst through the opening, and so burned the deceased as to cause his death.

The opinion of the supreme court was rendered by Judge Marshall, who, in the course of the same, used the following language:

Was there any evidence, on the most favorable view that can reasonably be taken of it, to establish actionable negligence? Appellant supports the affirmative of that proposition by arguing that the danger of working at the stove when the blast was on was unknown to the deceased or to his fellow-laborer, Rendt, hence they should have been informed of it by the master, and that the failure so to do, resulting in the injury of the deceased, renders the master liable. Granted that the danger existed, yet it does not follow [that] there was a duty to instruct in regard to it, unless it was reasonably to be apprehended that the circumstances requisite to set that danger in motion might probably occur, and we are unable to perceive anything in the evidence to establish that element.

The duty to instruct does not go so far as to require the master to acquaint the employee with every possible danger to which he may be subjected in the course of his employment. The master has a right to assume that the servant will see and appreciate those dangers which are open and obvious to a person of ordinary comprehension; also that other servants associated with him in the common employment will exercise ordinary skill and prudence; also that tools which are furnished will not be so used as to be unreasonably or unusually dangerous, or that a place which is reasonably safe will be made unsafe by the improper conduct of those who are required to work there, or their fellow-servants; and as to all such matters the employee assumes the dangers as a part of his contract of employment. Such contract, by implication, includes an assumption of all the ordinary risks incident to the employment, such as the risk of a coemployee's failing to exercise ordinary care and prudence.

In any view of the evidence, the negligence which resulted in the accident was that of Kilz and him alone. The relations between him and the deceased were clearly that of a fellow-servant. In the absence of negligence either in the employment or retention of Kilz, his negligent act can not reach back to the common employer as the producing cause of the accident, and there is no evidence in the case tending in the remotest degree to show any such negligence. The trial court was clearly right in taking the case from the jury. The judgment of the superior court is affirmed.

EMPLOYERS' LIABILITY—PRIVATE RAILWAY—EFFECT OF RULE TO "STOP, LOOK, AND LISTEN," AS APPLIED TO EMPLOYER AND EMPLOYEE—*Weiss v. Bethlehem Iron Co., 88 Federal Reporter, page 23.*—This case was brought up to the United States circuit court of appeals for the third circuit on a writ of error from the United States

circuit court for the eastern district of Pennsylvania, where a judgment had been rendered in favor of the above-named company in a suit brought against it by one Weiss to recover damages for injuries incurred while he was in its employ.

The evidence showed that the plaintiff, Weiss, worked at night in wheeling fire brick and clay in a wheelbarrow to a place in the defendant's mill, and in wheeling therefrom old fire brick; that while engaged at this work, shortly after 9 o'clock on the night of April 30, 1896, the fourth night of his employment, he was struck by a moving car pushed by a dinkey engine just as he was crossing the track and was badly maimed; that the engine and car came out of the doorway in the mill not far from the place where the plaintiff crossed the track, and that the track inside the mill took so sharp a curve that if the engine were inside the mill and 12½ feet from the doorway it could not be seen by one standing at the point where the plaintiff crossed the track; also that it was the rule in the iron works for the foreman to warn new men in regard to the danger from locomotives, three of which were in constant use at the same time, but that no such warning had been given to the plaintiff.

The circuit court of appeals rendered its decision June 13, 1893, reversing the judgment of the lower court and ordering a new trial. From the opinion of said court, which was delivered by Circuit Judge Acheson, the following is quoted:

We are not able to concur in the views of the court [below] upon the question of the plaintiff's alleged contributory negligence in not stopping before he attempted to cross the railway track. In substance and effect the court charged the jury that, if the plaintiff did not stop, he was guilty of contributory negligence. Now, the "stop, look, and listen" rule regulating the conduct of a traveler upon a highway when about to cross a railroad track is not the criterion by which to determine the degree of care which was incumbent upon the plaintiff. The difference between an ordinary railroad traversed by trains running at high rates of speed and the defendant's private railway in structure, equipment, location, and use is so great that the general rule governing the crossing of the former is not applicable to the latter. Again, the relation between the plaintiff and the defendant was very different from that which exists between a railroad company and a traveler upon a highway crossing the railroad. The defendant set the plaintiff to work upon its wheelbarrow runway, which crossed its railway track, and the plaintiff, in the performance of his work, necessarily crossed the railway, not upon the implied invitation of the defendant simply, but by its direction. The defendant was under a legal obligation not to expose its servant, when conducting its business, to unnecessary peril against which he might have been guarded by reasonable diligence on the part of the defendant. The plaintiff had a right to assume that the defendant would not subject him to needless danger, and hence his watchfulness would naturally be diminished. The plaintiff was bound only to observe reasonable care to avoid danger which was obvious, or which was known to him, or of which he might have acquired knowledge by the exercise of proper attention.

EMPLOYERS' LIABILITY—RAILROAD COMPANIES—ASSUMPTION OF RISK BY EMPLOYEE, ETC.—*Middle Georgia and Atlantic Railway Company v. Barnett, 30 Southeastern Reporter, page 771.*—This suit was brought in the superior court of Putnam County, Ga., by Mrs. Lucinda C. Barnett against the above-named railway company to recover damages for the death of her minor son, a brakeman in the employ of said company.

The plaintiff alleged negligence on the part of the defendant in that it had left an open drain under a track in one of its yards where cars had to be coupled and uncoupled and switched back and forth. The evidence offered by the plaintiff tended to show that the deceased, while engaged in the discharge of his duties as brakeman, and without fault on his part, stepped into this drain at night, and was run down and killed by a moving train of the defendant. The defendant denied that the drain contributed to the death of the deceased and claimed that, if it did, it was one of the risks incident to the business which was assumed by him when he entered into the employment, and that therefore the defendant was not liable. A judgment was rendered for the plaintiff and the defendant brought the case on writ of error before the supreme court of Georgia, which rendered its decision May 26, 1898, and sustained the judgment of the lower court.

The opinion of the court was delivered by Presiding Justice Lumpkin, and from the syllabus of the same, which was prepared by the court, the following is quoted:

The rule of law that an employee takes the risks usually incident to the work in which he is employed does not exempt the master from liability for the death of a servant resulting from the negligent failure of the master to furnish the servant with a safe place in which to work, if, at the time his death was occasioned, he was free from contributory negligence.

EMPLOYERS' LIABILITY—RAILROAD COMPANIES—DUTY OF EMPLOYERS AS TO MAKING RULES—*Delaware, Lackawanna and Western Railroad Company v. Voss, 41 Atlantic Reporter, page 224.*—This case was heard in the supreme court of New Jersey on a demurrer to the declaration of the plaintiff, one Theodore Voss, in an action brought by him against the above-named railroad company. The decision of the court, sustaining the demurrer to the first count of the declaration and overruling the demurrer to the third count, was rendered September 22, 1898.

The opinion of the court was delivered by Judge Lippincott, and the following, sufficiently showing the facts and the decision in the case, is quoted therefrom:

In this case separate demurrers are filed to the first and third counts of the declaration. The action is one by the plaintiff to recover damages of the defendant for personal injuries inflicted while the plaintiff was in the employment of the defendant in its freight coal yard at the

terminus of its railroad at the Hudson River, in Jersey City. The first count of the declaration avers that at the terminus of this railroad the railroad company had a coal yard appurtenant to the railroad, and used in connection with the distribution of coal carried by the railroad company to the various points of unloading, by means of tracks laid in the said yard, over which the cars carrying coal were transferred. It avers that in January, 1896, the plaintiff was a servant of the defendant in this yard, and that it was a part of his work or duty to go upon the coal cars standing in said yard, and get coal to be used in the said business of operating its railroad. One averment of negligence in this count is that the defendant suffered and permitted, in the operation of its yard, "its cars to be kicked with great force and violence across this yard; that is to say, to be driven across by giving them an impetus and detaching them." So far as this averment, standing alone, is concerned, the impetus and the detachment of the cars was the manner in which the work of the yard was done by the coemployees or coservants of the plaintiff in the employment of the defendant, whose negligence in this respect, even if it be conceded to exist, would not form a basis for an action for injuries arising by reason of such negligence. The negligence of a coservant is a risk assumed in the common employment. But the count of the declaration obtains its force from the further averment of negligence of the defendant in operating its roads, which is couched in these words, to wit, "and of its negligence and carelessness in failing to make and enforce reasonable and proper rules and regulations for the guidance of its employees in the operation of its said yard," and again charging it with "negligence and carelessness in failing to make and enforce reasonable and proper rules and regulations for the guidance of its employees in its said business." There is no averment whatever setting forth in what respect the failure to make reasonable rules and proper regulations was the cause of the injury to the plaintiff. Even if such averment had been contained in this count of the declaration, still it is clear that in the work of the operation of this yard, and the business carried on therein, the plaintiff assumed all the risks of the negligence of his coservants, as incidental to this class of employment, and therefore the gravamen of the count, in so far as the liability of the defendant is concerned, is in the averment that the company failed to establish certain general rules for theguidance of its employees or servants in their relations to each other in the work being carried on in this yard. This count of the declaration is framed upon the general idea that it was the duty of the defendant, as master, to make and enforce rules and regulations for the operation of its yard. I think it is sufficient to say that in the law no such legal duty existed upon the part of the defendant. Risks which are incidental to the employment, risks which are obvious, and those arising from the negligence of coservants, and those created by the want of reasonable care in the exercise by the servant of his employment, are all assumed by the servant when he enters or continues in the service; and there can not, in reason, be any legal duty resting upon the master to establish rules and regulations to protect the servant from such risks. The general averment of the failure to exercise reasonable care to make and establish or enforce rules and regulations furnishes no basis of liability against the master.

There is no principle of law compelling the establishment of rules by which the work of the master shall be done by the servant. The great danger to the master would be the establishment of rules and regulations for the conduct of his business, the operation of which might result in risks not contemplated by the parties, and involve serious

discussion as to their reasonableness. The master is not bound to make any such rules, but is entitled to have his liability to his servant for the dangers of the work determined by the application of the general principles of law regulating and governing the relation of master and servant to each particular cause or case of injury as it arises, and to the system or manner in which his business is operated or conducted. The demurrer to the first count of the declaration is sustained, with costs.

EMPLOYERS' LIABILITY—RAILROAD COMPANIES—FELLOW-SERVANTS—ASSUMPTION OF RISKS—*Yager's Administrator v. The Receivers, 88 Federal Reporter, page 773.*—One J. M. Yager, an employee of the receivers of the Atlantic, Mississippi and Ohio Railroad Co., while working upon a bridge, was killed by the falling of the same which carried him down with it and fatally crushed him. It was alleged that the accident was caused by the negligence of one W. S. Hanna, the manager of the work, in attempting to swing the bridge on its bearings without placing props against the side of the bridge or fastening ropes or guys to the top, which caused the bridge to careen and fall. Suit was brought by Yager's administrator in the United States circuit court for the eastern district of Virginia to recover damages for his death, and the court rendered its decision in January, 1882, and dismissed the plaintiff's petition, rendering judgment for the defendants.

The opinion of the court was delivered by District Judge Hughes, and from it the following is quoted:

Conceding at present, for the sake of the argument, that there was negligence on the part of Hanna, the foreman bridge builder in charge of the bridge of these receivers at Petersburg, the case belongs to that familiar class of cases, often difficult to treat, of an injury to one fellow-servant from the alleged negligence of another. No principle of law is more firmly settled than the general principle that every person who voluntarily enters upon a particular employment for hire impliedly takes upon himself all the risks ordinarily incident to it, and especially that voluntary employees for hire in any work impliedly assume that risk of accident resulting in the due course of that work from the negligence of fellow-servants. The principle is plain enough, and the reason of [the] law obvious enough. But there are several classes of exceptions to the rule, and there is often difficulty in determining whether a particular case falls within the exception, or should be governed by the rule itself. It is not worth while to show by citation of law, for it must be conceded, that Yager, as a bridge builder, assumed the risks ordinarily incident to that trade; and the further question in this case is whether he did not also assume the risk of such negligence and oversight as might be committed by his foreman and coemployee in the execution of this job.

In the case of Hough *v.* Railway Co., 100 U. S., 213, referred to in the briefs of counsel, and relied upon by each, the United States Supreme Court, acquiescing fully in the general rule, was at pains to discriminate the case then before it from the class of cases falling within the general principle. This case of Hough *v.* Railway Co. shows

but one example of an exception to the general rule under consideration. It is a case of accident from the use of defective machinery. It is not a case of accident in bridge building. In that case the general rule as to the nonresponsibility of a master to one employee for the negligence of another was set out with much care, as follows:

"It is implied in the contract between the parties that the servant risks the dangers which ordinarily attend or are incident to the business in which he voluntarily engages for compensation, among which is the carelessness of those, at least in the same work or employment, with whose habits, conduct, and capacity he has, in the course of his duties, an opportunity to become acquainted, and against whose neglect or incompetency he may himself take such precautions as his judgment or inclination may suggest."

This general rule, thus carefully enunciated by Mr. Justice Harlan, is the one which must be held to determine the case at bar, unless it can be brought within some exception equally clear and well settled, because it must be assumed that Hanna and Yager were coemployees, one as foreman, and the other as journeyman, in an employment in which they had been working with each other for some time, and in which they had had full opportunity for becoming acquainted with each other's "habits, conduct, and capacity." I am not able to gather from the argument of counsel for the plaintiff what particular class of exceptions to the general rule of nonliability it is within which they suppose the present case to fall. It is not, as the case of Hough *v.* Railway Co. was, one of defective machinery known to have been out of repair by intestate and foreman, and which the intestate had a number of times complained of ineffectually. The court was dealing with such a case, and detached expressions appropriate to such a case can not logically be applied to the present case. The court was showing that that case was, by reason of its own particular facts, an exception to the general rule, and was at pains to set out the especial grounds on which it discriminated that case from those governed by the general law. Certainly, the case of a locomotive engine being thrown from a railroad track by a defective cow catcher, which the proper officers of the company had frequently promised, but had neglected, to put in repair, is a very different one in all its elements from that of the falling of the parts of a new bridge while in the course of erection from circumstances arising at the moment, equally unforeseen and unexpected by the foreman and the intestate journeyman.

Hanna was an employee of the receivers of this railroad, a foreman engaged at manual labor in a special class of work along with other workmen. He was depended upon to take charge on the spot in person of every job of bridge building or repairing that was required on a long section of the railroad. But he did this in detail. He had no stationary headquarters. His service was not limited to giving orders from a central point to workmen at a distance, but he was personally present in executing each job, laboring with his own hands as a mechanic along with the rest of his gang in its execution. He was so actually engaged when the accident under present consideration happened, and therefore I am of opinion that he was a coemployee of Yager in every particular and every sense, so carefully defined by Mr. Justice Harlan in Hough *v.* Railway Co., 100 U. S., 217, in the language I have quoted at length.

But I am not convinced by anything appearing in the evidence that there was in the falling of the bridge at Petersburg, on July 1, 1878,

culpable negligence on the part of Hanna or any other coemployee of the plaintiff's intestate, Yager. This accident may have been one of the many that periodically happen whose real cause can not be predicated with certainty. It occurred in one of the long days of a hot summer, and the men engaged may have been partially unnerved and relaxed with the heat of the weather. Few men ever prove such a character for care and skill and experience as is proved for Hanna as a bridge builder; and I am unwilling to ascribe culpable negligence to him in the falling of this bridge at Petersburg.

The petition must be dismissed, but without cost. It must be dismissed—First, because the deceased man, Yager, in engaging with these receivers for wages, as a bridge builder, took upon himself all the ordinary risks incident to that employment, including the risk of the falling of this bridge at the critical time of adjusting it to its bearings, after the taking out of the false work, during the putting in of the upper braces of the end bent; second, because, in engaging in this occupation, he took upon himself the risk of all accidents incident to such work from the temporary oversight or mismanagement of his coworkman, Hanna, the experienced and skillful foreman bridge builder, who was laboring with him, and directing this job; and, third, because the evidence does not show that the falling of this bridge was caused by any fault of the receivers, or by the culpable negligence of their foreman bridge builder, Hanna.

NONLIABILITY OF EMPLOYER ON EMPLOYEE'S POLICY OF ACCIDENT INSURANCE IN CASE INSURANCE COMPANY FAILS TO PAY—*Carpenter et al. v. Chicago and Eastern Illinois Railroad Co., 51 Northeastern Reporter, page 493.*—Action was brought by Mary E. Carpenter and others, the widow and children of one Emanuel Carpenter, deceased, against the above-named railroad company and the American Casualty Insurance and Security Co. upon a contract of accident insurance. The case was heard in the circuit court of Clay County, Ind., and the railroad company separately demurred to the complaint as not stating facts sufficient to constitute a cause of action against it. Said demurrer was sustained by the circuit court, and the plaintiffs appealed to the appellate court of the State, which rendered its decision October 27, 1898, and sustained the action of the circuit court.

The facts in the case are set out in the opinion of the appellate court, which was delivered by Chief Justice Henley, and the following is quoted therefrom:

The complaint is upon a written contract, and is in one paragraph. It alleges the death of Emanuel Carpenter, the settlement of his estate without administration, and that appellants are his heirs, and only heirs at law. It alleges that a certain contract was executed by all of the parties to this action, and makes the said contract a part of the complaint. This contract is in the following words: "This to certify that Emanuel Carpenter, Sec. 25, Coal Bluff, is insured by the American Casualty Insurance and Security Co. of Baltimore, Md., against

accident resulting in bodily injury or death. By the terms of the policy the above named person, so long as he remains an employee of the Chicago and Eastern Illinois Railroad Co., will receive through the paymaster of that railroad company in case of accident, however and whenever happening between the date hereof and the first day of May, 1893, the following benefits: (1st) For accidental injury not resulting in death, one-half of his usual wages, during disablement, if not more than fifty (50) weeks; also, doctor bills. (2d) For accidental injury resulting in his death, his legal representatives will receive one-half of his usual wages for one year, and doctor bills and funeral expenses. The above benefits will not accrue to said person except for accidents sustained while he is in the employ of the Chicago and Eastern Illinois Railroad Co., and only between this date and the 1st day of May, 1893. No benefits will accrue hereunder for any accident occurring as the result of a riot or other violation of law. This certificate is issued in accordance with the policy of insurance issued by the American Casualty Insurance and Security Co. to the Chicago and Eastern Illinois Railroad Co. for the benefit of its employees. Dated at Chicago, Ill., this 1st day of July, 1892. [Signed] American Casualty Insurance and Security Co., W. E. Midgley, president. Chicago and Eastern Illinois R. R. Co., by Charles H. Rockwell, gen'l supt." It is further alleged that a certain policy of insurance written by appellee's codefendant was taken out by appellee for the benefit of its employees, and that the premium paid for said policy was collected from said employees by appellee retaining a stated amount out of the monthly wages of each insured employee; that appellants' decedent was one of appellee's employees, and that appellee retained out of his monthly wages the sum of $2 per month, which went into the treasury of appellee, to pay for said insurance; that appellants' decedent was accidentally injured while in the employ of appellee, and in the line of his said employment, and that said accidental injury occurred during the term of said insurance, and that from said injury he was wholly disabled, and lingered a long time, and finally died as a result thereof; that the wages, doctor bills, and other moneys which said contract and policy of insurance provided should be paid on the happening of the events related in the complaint have never been paid. Judgment for $400 is demanded.

Does the complaint state facts sufficient to create a liability upon the part of the appellee? We are unable to find in the complaint any averment charging appellee with a breach of any contract declared upon, or the breach of any duty owing to appellants or their decedent. It is not charged that the moneys, or any part thereof, which appellee deducted from decedent's wages, was not applied to the payment of premiums due from him to appellee's codefendant; neither is it charged that appellee received and retained any moneys from the said insurance company which were due appellants under the policy taken out for the benefit of Emanuel Carpenter, deceased. It seems clear to us that this action can not be maintained against appellee. There was no contract of insurance between appellee and Emanuel Carpenter. The contract of insurance was entered into between appellee and its codefendant, and was for the benefit of said Emanuel Carpenter; he accepted its terms, and paid to appellee the amounts necessary to insure him the benefits; he was the third party for whose benefit the contract was made; and, under the well-settled rules of law as announced by the decisions of our supreme court, he, or his heirs in case of his death,

could enforce the contract against the insurance company, if his injury was such a one as would bring him within the provisions of the policy. We find no error in the record. Judgment affirmed.

RECEIVER OF STREET RAILWAY—REGULATING RIGHTS OF EMPLOYEES, ETC.—*Morley et al. v. Snow, 75 Northwestern Reporter, page 466.*—This case was heard in the supreme court of Michigan on a petition by Geo. B. Morley and Homer Loring for a mandamus to require Byron A. Snow, Saginaw circuit judge, to vacate an order made by him. The supreme court rendered its decision May 24, 1898, and granted the petition.

Judge Moore, who delivered the opinion, used the following language therein:

This is a petition for a mandamus to require the relator to vacate an order made by him. The petitioners were appointed by the circuit court for the county of Saginaw, in chancery, receivers of the Union Street Railway Company of Saginaw, Mich., upon the application of the Boston Safe Deposit and Trust Company, complainants in a cross-bill in a case which is reported in 73 N. W., 243. The receivers were directed to take control of the road and operate the same. At this time there was in the employ of the road, as a street car conductor, John C. Smith, and he continued to act in that capacity after the appointment of the receivers. About April 1 the receivers adopted the Mehling box system of collecting car fares from passengers. This box is a metal safe, of convenient size, carried by the conductor, into which the passenger is required to deposit his fare, at which time the conductor presses a button which rings a bell and registers the fare. At the end of the day the box, with the transfer tickets, is handed by the conductor into the office, and becomes his settlement with the company. The use of this box was distasteful to the conductor John C. Smith, who filed a petition in which he represented his long employment upon the road; the fact that he was required to carry one of these boxes; that he had no means of knowing they were accurate; that their use made him responsible to the company for plugged or counterfeit coins; that passengers objected to their use, and when the conductors, following the rules adopted by the company, required the passengers to deposit their fares in the boxes or leave the car, it gave rise to controversies which resulted in injury to the conductors; and that he had been injured by a passenger who objected to paying his fare. He also represented that when attempting to use the boxes of the company in good faith, according to the rules, he had been laid off from work for a number of days; and he asked for an order that the receivers might be required to pay him for the time so lost, and the use of the boxes be discontinued. The receivers answered the petition, and claimed the use of the boxes was a reasonable and proper regulation, and claimed that Mr. Smith persistently and purposely refused to properly use them, and that after being warned that, if he did not properly use the boxes as directed, he would be laid off. Proof was offered before the court from which it pretty clearly appears that there would be no difficulty in operating the boxes if the conductors were so inclined, and that there was no practical difficulty in the way of their use, either on the part of the passengers or the conductors. The court made an order

granting the prayer of the petition, not for the reasons set up therein, but, to state it in his own language, used at the time he granted the order: "It seems to me, in this matter, that the fact of the receivers publishing notices in the car that no conductor shall handle money, connecting that with the fact that he shall be liable and responsible for any plugged money or counterfeit money that is placed in these boxes, compelling the public to place the fares in these boxes, and for the further reason that it is objectionable to the public to be compelled to put the money in the boxes—for these reasons it seems to me that, coupling the advertisement with the request to the public, it means that the conductors are not to be trusted; that they are not to handle the money; that there is some honest person somewhere who can handle the money, and count it correctly, but that these men are liable not to do so. It is an insinuation of dishonesty. In my opinion, it is saying to the public, 'We have men in our employ whom we can not trust, whom we are unable to trust, and I warn you that here is a man who is liable to appropriate to his own use money that he may collect that belongs to this railroad.' It tends to ostracize from society people who are so engaged, so employed. Children talk of it on the street. People discuss it, that they are not proper persons to associate with; they can not be trusted in handling five-cent pieces. I think this box is not a proper regulation; that it is not a thing to be used in the manner in which it is used; and an order may be made discontinuing the use of it."

We think the conclusion reached by the learned judge is wholly unwarranted by the facts. Conductors of street cars deal with a great number of persons, some of whom are entering and leaving the car frequently. It often happens that change must be made, and there are opportunities for mistakes. It is not unreasonable to assume that, like persons in all callings, some of the employees of street car companies will yield to temptation, when presented. Every one at all familiar with business upon a large scale knows that it is desirable to have it so systematized that mistakes or fraud in its conduct shall not occur. Officials, both of the State and Nation, and officers charged with the management of banks, railroads, and other corporations, are surrounded by checks and safeguards calculated to do away with the possibilities of frauds or mistakes. The cash register is to be found in most places of business. Upon the elevated roads in the large cities, the passenger pays his fare before he enters upon the platform, over which he must pass to get admission to his train. Everyone recognizes the checks and safeguards as proper to be used, and no one has a right to regard them as an imputation upon the honesty of any individual using them. Their use is simply a recognition of what we all know to be a fact, with humanity constituted as it is, that, in the conduct of a large business by many persons, there is a liability to make mistakes, and a possibility of the commission of frauds. It can readily be seen how the unintelligent or dishonest might object to these checks and safeguards, but it is difficult to understand how the honest and intelligent should object to any practical method which would reduce the probability of mistakes, or the opportunities for the commission of fraud, to the minimum.

The receivers are in the management of a great property. They adopted a device which in their judgment is calculated to help make the management of the road successful and profitable. Their judgment is challenged by one of their employees. He appeals to the court. The receivers are supposedly appointed because of their responsibility and ability. The act of the receivers is a detail in the management of the

road. The act done is not shown to be an abuse of discretion on the part of the receivers. If the court is to substitute its judgment for the judgment of the receiver in a detail of management like this, where will its duty end? Shall the court enter into a consideration of the entire organization of the road, and determine whether one man shall be discharged and another employed? Will it enter into the inquiry as to the quality of the coal used in the power house, or the brand of oil used as a lubricator? Will it entertain a complaint of an employee that he should be furnished with a pointed shovel in his work, instead of the one he is now required to use? We think the learned judge entered upon an inquiry that properly belongs with the receivers, and not with the court. If they are not competent to deal with such a detail of the management of the road, they should be removed, and some one appointed who is competent. The writ should issue as prayed.

SEAMEN'S WAGES—LIEN ON CARGO—*The Marion, 88 Federal Reporter, page 96.*—This case was heard in the United States district court for the northern district of California, and the decision of the court was rendered May 21, 1898.

The opinion of the court was delivered by District Judge De Haven, and contains a statement of the facts in the case. It reads as follows:

This is a libel by seamen to enforce against a cargo of salmon a claim of lien for their wages. The cargo, consisting of 850 barrels of salmon, was brought by the barkentine Marion from Alaska to the port of San Francisco, upon the voyage described in the amended libel. The Marion has been sold, and, the proceeds arising from such sale not being sufficient to pay the wages of the seamen, it is sought by this proceeding to enforce the balance of their claim for wages against the cargo in question. It was admitted upon the trial that prior to the departure of the Marion on that voyage, which was a voyage undertaken for the purpose of catching fish, C. E. Whitney & Co., the claimants here, advanced to the owners of the vessel money and supplies of the value of $4,400 for the purpose of enabling her to make such voyage. Upon the return of the vessel to San Francisco the claimants received the 850 barrels of salmon in payment of the advances so made by them to the owners of the vessel. Upon this state of facts, there must be a finding that the owners of the vessel were the owners of the salmon when caught and landed in San Francisco; and under the law as declared by my predecessor in overruling the exceptions to the amended libel in this case (The Marion, 79 Fed., 104), the seamen are entitled to a lien upon such cargo in an amount equal to what would be a reasonable freight thereon if such cargo had been carried by the vessel for persons other than the owners of the vessel. It was agreed upon the trial that $1 per barrel would be a reasonable charge for freight upon the voyage named. Let a decree be entered in favor of the libelants for the sum of $850 and costs.

WAGES PREFERRED IN PAYMENT BY RECEIVER—TELEGRAPH AND TELEPHONE COMPANIES—*Keelyn v. Carolina Telephone and Telegraph Co., 90 Federal Reporter, page 29.*—The above-named company seems to have been in the hands of a receiver and a hearing was had in the United States circuit court for the district of South Carolina upon claims against said company for labor and supplies furnished it. The decision of the court was rendered October 26, 1898, and the claims for labor were allowed.

The opinion of the court was delivered by Circuit Judge Simonton and reads as follows:

This case comes up upon claims made by persons who have furnished supplies to the Carolina Mutual Telephone and Telegraph Company and others who have been employed by it. The supplies are of material essentially necessary in keeping up and maintaining the telegraph lines. The employees are ladies who have been employed at the telephone exchange and the superintendent in charge. It is admitted that these employees are not protected under the labor acts of the general assembly of South Carolina. If they can be protected at all, it must be under the doctrine established in Fosdick *v.* Schall, 99 U. S., 235. This was the first of a series of cases which recognize that claims may exist against an insolvent railroad company which are superior to the lien of a mortgage debt. The theory is that railroads are a peculiar property, of a public nature, discharging a great public work. They can not be built without the interposition of the sovereign power. When built, they serve a great public purpose. Railroads connect distant points. That they are common carriers is but a small part of their office. They are not only the arteries of trade. They civilize, develop, and enrich large sections of country. Cities, towns, and villages, farms, and factories spring up on their line. They make intercommunication of vital importance to thousands. They are the means of transporting troops, munitions of war, and supplies, promoting and preserving tranquillity in times of peace, and connecting and creating strategic points in times of war. They are public highways. Public interest—the highest public interest—requires that when constructed they be kept up—be kept, as the phrase is, a "going concern." Being so important, the courts look with favor upon everything which keeps a railroad a going concern. To this end, the first application of its earnings must be made. The stockholder subscribes, and the bondholder lends, his money with knowledge of this. Neither of them can get anything until the current expenses are paid. Upon this assurance, all persons who furnish labor and supplies are encouraged to give credit to the railroad and to contribute to keeping it a going concern; and if, perchance, through inadvertence, or for any other cause, any portion of the earnings have been applied to interest or dividends, leaving current expenses unpaid in whole or part, this is a diversion which the court will certainly correct. Such seems to be the doctrine, and the reason for the doctrine, of Fosdick *v.* Schall. Thus far the Supreme Court has never applied the doctrine in any case except that of a railroad. It certainly can not be applied to corporations of a purely private character.

The question of its application to telegraph or telephone companies has never been made. If we are governed by the reason of the doctrine, its application to a telegraph and telephone company is not difficult. Like railroads, these lines are very important instruments of

interstate commerce. They are means of communication between all points on the globe. They are of the most essential importance to the Government in time of war and to the people in time of peace. Under the act of Congress of 1886, they are made agents of the Government, and have its special protection upon certain conditions. This company has complied with these conditions. They can exercise the right of eminent domain. It does appear as if the public have as much interest in keeping a telegraph and telephone company a going concern as they have a railroad company; and so the doctrine laid down in Fosdick *v.* Schall, and the current of cases of which it is the source, would seem applicable also to telegraph and telephone cases.

In the present case it will be extented at least in aid of the operators. They depend for their daily living on their daily wages. They clung to their positions, and stood by the corporation, in despite of failure to secure pay. They, at great sacrifice, kept it a living concern. They enabled it to retain its list of subscribers, so that when it was offered for sale, instead of being an abandoned wreck, it was in active daily operation. The claims of those who furnished supplies are by no means as strong as these. Let an order be taken for the payment of the operators and other employees their wages for 90 days before the appointment of the receiver.

LAWS OF VARIOUS STATES RELATING TO LABOR ENACTED SINCE JANUARY 1, 1896.

[The Second Special Report of the Department contains all laws of the various States and Territories and of the United States relating to labor in force January 1, 1896. Later enactments are reproduced in successive issues of the Bulletin from time to time as published.]

NEW JERSEY.

ACTS OF 1898.

CHAPTER 50.—*Trade-marks, etc., of trade unions, etc.*

SECTION 1. It shall be lawful for any person, association, organization or corporation to adopt for their protection and file for registry, or cause to be filed for registry, as herein provided, any label, trade-mark, term or design that has been used or is intended to be used for the purpose of designating, making known or distinguishing any goods, wares, merchandise or products of labor that have been or may be wholly or partly made, manufactured, produced, prepared, packed or put on sale by any person, association, organization or corporation, or to or upon which any work or labor has been applied or expended by any person or by any member or members of any association, organization or corporation that has adopted and filed for registry, or that may adopt and file for registry, any such label, trade-mark, term or design as aforesaid, or announcing or indicating that the same have been made in whole or in part by any such person, association, organization or corporation or by any member or members thereof.

SEC. 2. Whenever any person, association, organization or corporation shall adopt and file for registry, or cause to be adopted and filed for registry, any label, trade-mark, term or design pursuant to the provisions of this act, the property, privileges, rights, remedies and interests in and to any such label, trade-mark, term or design, and in and to the use of the same, provided or given by this act to, or otherwise conferred upon or enjoyed by, the person, association, organization or corporation filing the same, or causing the same to be filed, for registry, shall be fully and completely secured, preserved and protected as the property of those entitled to the same, before any such label, trade-mark, term or designs has been actually applied to any goods, wares, merchandise or product of labor and put upon the market for sale or otherwise, and before any use or appropriation of any such label, trade-mark, term or design has been made in connection with any such goods, wares, merchandise or product of labor, as well as after the same has been used or applied to designate, make known or distinguish any such goods, wares, merchandise or product of labor and they have been put upon the market.

SEC. 3. Any person, association, organization or corporation that has heretofore adopted and used, or shall hereafter adopt and use, any label, trade-mark, term or design as herein provided, may file the same for registry in the office of the secretary of state by leaving two copies, facsimiles or counterparts thereof, with the said secretary, and filing therewith a statement in the form of an affidavit, subscribed and sworn to by any such person, or by any officer, agent or attorney of any such association, organization or corporation, specifying the person, association, organization or corporation by whom, or on whose behalf, any such label, trade-mark, term or design is filed, and the class or character of the goods, wares, merchandise or product of labor to which the same has been, or is intended to be, appropriated or applied, and that the person, association, organization or corporation so filing the same, or on whose behalf the same is so filed, has the right to the use of the said label, trade-mark, term or design, and that no other person, firm, association, organization or corporation has the right to such use, either in the identical form or in any such near resemblance thereto as may be calculated to deceive, without the permission or authority of the person, association, organization or corporation filing the same, or causing the same to be filed, and that the copies, facsimiles or counterparts filed therewith are true and correct copies, facsimiles or counterparts of the genuine label, trade-mark, term or design of the person, association, organization or corporation filing the same or causing the same to be filed; and there shall be paid for such filing and registry a fee of one dollar to the secretary of state for the use of the State.

SEC. 4. The secretary of state, upon the filing of any such label, trade-mark, term or design that is not in conflict with the next section hereof, shall register the same, and shall deliver to the person, association, organization or corporation filing the same, or causing the same to be filed, as many certified copies thereof, with his certificate of such registry, as any such person, association, organization or corporation may request, and for every such copy and certificate there shall be paid to the secretary of state, for the use of the State, a fee of one dollar; and any such certified copy and certificate shall be admissible in evidence and competent and sufficient proof of the adoption, filing and registry of any such label, trade-mark, term or design by any such person, association, organization or corporation, in any action or judicial proceeding in any of the courts of this State, and of due compliance with the provisions of this act: *Provided, however*, That such certificate shall not be assignable or tranferable by the person, association, organization or corporation to whom the same is issued by the secretary of state.

SEC. 5. It shall not be lawful for the secretary of state to register, or permit to be registered, for any person, association, organization or corporation any label, trade-mark, term or design that is in the identical form of any other label, trade-mark, term or design theretofore filed by or on behalf of any other person, association, organization or corporation, or that bears any such near resemblance thereto as may be calculated to deceive, or that would be liable to be mistaken therefor; and any person, association, organization or corporation who shall file or procure the filing and registry of any label, trade-mark, term or design in the office of the secretary of state, under the provisions of this act, by making any false or fraudulent representations or declarations, with fraudulent intent, shall be liable to pay any damages sustained in consequence of any such registry, to be recovered by or on behalf of the party injured thereby in any court of law of this State having jurisdiction in civil causes.

SEC. 6. Whenever any person, association, organization or corporation has heretofore adopted and filed for record or registry, or shall hereafter adopt and file for registry, any label, trade-mark, term or design, or cause the same to be done, as herein provided, and the same shall have been registered pursuant to this act, it shall be unlawful, and a violation of this act, for any other person, association, organization or corporation to manufacture, use, sell, offer for sale, or in any way utter or circulate, any counterfeit or imitation of any such label, trade-mark, term or design; or have in possession, with intent that the same shall be sold or disposed of, any goods, wares, merchandise or product of labor to which or on which any counterfeit or imitation of any such label, trade-mark, term or design is attached, affixed, printed, painted, stamped, impressed or displayed; or to sell or dispose of, or offer to sell or dispose of, or have in possession with intent that the same shall be sold or disposed of, any goods, wares, merchandise or product of labor contained in any box, case, can or package to which or on which any such counterfeit or imitation is attached, affixed, printed, painted, stamped, impressed or displayed.

SEC. 7. Whenever any person, association, organization or corporation has heretofore adopted and filed for record or registry, or shall hereafter adopt and file for registry, any label, trade-mark, term or design as herein provided, it shall be unlawful, and a violation of this act, for any other person or persons, association, organization or corporation, to make any use, sale, offer for sale or display of the genuine label, trade-mark, term or design of any such person, association, organization or corporation, filing the same; or to have any such genuine label, trade-mark, term or design in possession with intent that the same shall be used, sold, offered for sale or displayed, or that the same shall be applied, attached or displayed in any manner whatever to or on any goods, wares or merchandise; or to sell, offer to sell, or dispose of or have in possession with intent that the same shall be sold or disposed of, any goods, wares or merchandise in any box, case, can or package to or on which any such genuine label, trade-mark, term or design of any such person, association, organization or corporation is attached, affixed, or displayed; or to make any use whatever of any such genuine label, trade-mark, term or design, without first obtaining, in every such case, the license, consent or authority of the person, association, organization or corporation adopting, filing and registering the same, or causing the same to be adopted, filed and registered; and any such license, consent or authority may be revoked and terminated at any time upon notice, and thereafter any use thereof shall be a violation of this act, and subject those violating the same to all the liabilities and penalties herein provided against any violation thereof.

SEC. 8. It shall be lawful for any person, association, organization or corporation that has adopted and filed, or caused to be filed and recorded or registered in the office of the secretary of state, at any time before the passage of this act, any label, trade-mark, term or design, to refile the same for registration by the secretary of state pursuant to the provisions of this act, upon the payment of the fees herein provided for filing and registering any label, trade-mark, term or design, and for copies and certificates thereof, and any person, association, organization or corpora-

tion so refiling any such label, trade-mark, term or design shall have and be entitled to all the rights, remedies, privileges and protection given by this act to any person, association, organization or corporation originally filing any label, trade-mark, term or design under the provisions of this act, and subject to the same liabilities.

SEC. 9. The court of chancery shall have jurisdiction in all cases arising or commenced therein under this act for the violation of any of the provisions thereof, and any person, association, organization or corporation filing, or causing to be filed, for registry, any label, trade-mark, term or design pursuant to the provisions of this act, shall have the right to an action in the said court against any person or persons, association, organization or corporation, for the violation of any of the provisions of this act; and upon the filing of any bill of complaint therefor, the law and practice regulating proceedings in that court shall be applicable thereto; and the said court is hereby empowered and required to enjoin the manufacture, counterfeiting, imitation, display, use, sale, offer of sale, circulating or uttering of any counterfeit or imitation of any such label, trade-mark, term or design of any such person, association, organization or corporation; and the sale or disposal of any goods, wares, merchandise or product of labor to which, or on which, any such counterfeit or imitation label, trade-mark, term or design is attached, affixed, printed, painted, stamped, impressed or displayed; or any goods, wares, merchandise or product of labor contained in any box, case, can or package to or on which any such counterfeit or imitation is attached, affixed, printed, painted, stamped, impressed or displayed; and further to enjoin the manufacture, use, sale, offer of sale, or display, of any genuine label, trade-mark, term or design of any such person, association, organization or corporation filing the same as aforesaid; or having in possession any such genuine label, trade-mark, term or design with intent that the same shall be used, sold, offered for sale or displayed, or the same applied, attached or displayed in any manner whatever to or on any goods, wares, merchandise or product of labor; or the selling, or offer[ing?] to sell or dispose of, or having in possession with intent that the same shall be sold, offered for sale or disposed of, any goods, wares or merchandise in any box, case, can or package to or on which any such genuine label, trade-mark, term or design of any such person, association, organization or corporation is attached, affixed or displayed; and from making any other, or any, use whatever of any such genuine label, trade-mark, term or design, without having first obtained, in any and every such case, the consent and authority of the person, association, organization or corporation adopting, filing and registering the same, or causing the same to be filed and registered, as herein provided; and the said court of chancery is hereby empowered to make such other orders and direct such other proceedings as the court may deem necessary and proper for the due protection of the rights of complainants, effecting the purposes of this act, the prevention of any violation of any of the provisions of the same, and secure and protect any and all persons, associations, organizations or corporations in all the rights, privileges, property and interests to which they or any of them are or may be entitled in any such label, trade-mark, term or design under any of the provisions of this act or otherwise; and it shall be the duty of the said court of chancery to award to the complainant or complainants in any such action any and all damages resulting from any such wrongful use of any such label, trade-mark, term or design by any defendant or defendants, or for any violation of any of the provisions of this act; and to require any such defendant or defendants to pay to such complainants any and all such damages, together with all costs and expenses incurred by any such complainant in any such action or proceeding; and the said court shall also order and decree that the defendants pay to the complainant or complainants any and all profits obtained, received or derived from any such wrongful use, or any violation of the provisions of this act; or both profits and any such damages, and that any and all such counterfeits or imitations of any such labels, trade-marks, terms or designs in the possession or under the control of the defendant or defendants in any such action shall be delivered up to an officer of the court, or to the complainant, to be destroyed, and that any such genuine labels, trade-marks, terms or designs in the possession or under the control of any such defendant or defendants shall be delivered up to the complainant.

SEC. 10. In addition to any other rights, remedies or penalties provided by this act, and as concurrent therewith, any person or persons, association, organization or corporation that shall violate any of the provisions of this act shall be liable to a penalty of not less than two hundred and not more than five hundred dollars, to be recovered in an action of debt in any court of law of this State having jurisdiction in civil causes, by any such person, association, organization or corporation that has adopted and filed, or caused the same to be done as aforesaid, any such label, trade-mark, term or design; which action may be commenced by summons as in ordinary cases, and shall be proceeded with therein as ordinary cases in said court; and in case any execution shall be issued upon any judgment obtained against the defendant or defendants in any such action and the same be returned unsatisfied, the court, on application and two days' notice to the defendant, may award an execution to

take the body of the defendant or defendants as in other cases where a capias may issue out of the circuit or supreme courts of this State; and thereafter the rights, remedies and liabilities of the parties, and the proceedings in the case shall be the same, or as nearly as may be, as in other actions in said courts where an execution to take the body of the defendant or defendants has been issued; and it shall be the duty of the court in which any such action may be brought to make all proper and necessary orders to restrain and prevent any defendant or defendants from continuing the committing of any violation of any of the provisions of this act.

SEC. 11. In any suit or proceeding in equity, or any action at law, brought by or on behalf of any such association or organization that is not incorporated, for any violation of any of the provisions of this act, the same may be brought in the recognized name of any such association or organization, or in the proper name of the president or the secretary or the treasurer of any such association or organization who has been or may be given authority to bring any action or actions for or in behalf of any such association or organization, and if for any reason such authority is not given before the commencement of any such suit or action, the same may be given thereafter at any time before the trial of the same; and any such suit in equity or action at law may be brought as aforesaid in the recognized name of any branch or local or subassociation, affiliated or connected with any national or international association or organization, or in the name of the president, or the secretary, or the treasurer thereof; and such authority to bring the same may be given by any board of directors, executive board, or executive committee, of any such association or organization, elected, chosen, or appointed by any such association or organization; and any such person or persons bringing any such action or proceeding in any court of law or equity in this State shall have the right to receive any and all moneys, property or other valuable things recovered by or adjudged to the complainant or plaintiff in any such suit or action, for the use and benefit of the association or organization entitled to the same; and whenever any such suit or action shall be brought by or on behalf of any such branch or local or subassociation or organization as herein provided instead of by or on behalf of any such national or international association or organization, such branch or local or subassociation bringing the same shall be entitled to the same rights, privileges, remedies and advantages, in the prosecution of such suit or action, as any other party or parties authorized by this act to bring such suit or action would have been entitled to if any such suit or action had been brought by them, or in their behalf, as herein provided.

SEC. 12. This act shall be construed by all courts at all times, in all suits, actions and proceedings, in the most liberal manner for effecting the objects and purposes thereof and protecting the claims, rights, interests, use and property of every person, association, organization or corporation in and to any label, trade-mark, term or design filed and registered pursuant to the provisions of this act.

SEC. 13. All acts and parts of acts contrary to, or inconsistent with, the provisions of this act, be and the same are hereby repealed.

SEC. 14. This act shall be deemed and taken to be a public act and shall take effect immediately.

Passed March 15, 1898.

CHAPTER 112.—*Collection of manufacturing statistics by the bureau of statistics.*

SECTION 1. The bureau of statistics provided for in the act to which this is a supplement [act approved March 27, 1878] shall, in addition to the duties prescribed in said act, collect and publish in the annual report of said bureau statistics showing the number of private firms and corporations engaged in the several industries in this State; the capital invested; amount of raw material used and its cost value; amount of goods manufactured and the selling price of said goods; the number of persons employed, by months, and distinguished as to sex; total wages paid; classification of wages, and such other information as may be necessary to show the true condition of each of the said manufacturing industries.

SEC. 2. The information secured shall be presented in the annual report by figures only; the names of persons, firms or corporations shall in no case be printed and the business of manufacturers, individually, shall not be divulged.

SEC. 3. The annual salary of the secretary of the bureau of statistics shall hereafter be the sum of fifteen hundred dollars.

SEC. 4. This act shall take effect immediately.

Approved March 25, 1898.

CHAPTER 139.—*Protection of employees as voters.*

SECTION 206. Any employer of any workmen, or any agent, superintendent or overseer of any company or corporation employing workmen, or any person whosoever, who shall directly or indirectly, by himself or by any other person in his behalf

or by his direction make use of or threaten to make use of any force, violence or restraint, or inflict or threaten to inflict by himself or by any other person any injury, damage, harm or loss against any person or persons in his employ, in order to induce or compel such employee or employees to vote or refrain from voting for any particular candidate or candidates at any election, or on account of such employee or employees having voted or refrained from voting for any particular candidate or candidates at any election, or who shall, by any sort of duress, constraint or improper influence or by any fraudulent or improper device, contrivance or scheme, impede, hinder or prevent the free exercise of the franchise of any voter at any election, or shall thereby compel, induce or prevail upon any voter to vote for or against any particular candidate or candidates at any election, shall be guilty of a misdemeanor, and being thereof convicted shall be punished by a fine not exceeding two thousand dollars, or imprisonment not exceeding five years, or both, at the discretion of the court before which conviction is had.

SEC. 233. The act entitled "An act to regulate elections," approved April eighteenth, one thousand eight hundred and seventy-six, and all acts amendatory thereof and supplemental thereto, and all acts and parts of acts, general and special, inconsistent with this act, are hereby repealed, but this repealer shall not revive any act heretofore repealed, and this act shall take effect immediately; * * *

Approved April 4, 1898.

CHAPTER 192.—*Seats for female employees.*

SECTION 1. Section two of the said act [act approved April 17, 1884; supplement of 1886, page 360, section 150 and General Statutes of 1895, page 1675, section 218] is hereby amended so as to read as follows:

2. That any person or corporation who shall be guilty of any violation of the provisions of this act [that suitable seats shall be provided for the use of females employed in manufacturing, mechanical and mercantile establishments] shall be liable to a penalty of fifty dollars for each offense: *Provided*, That ten days' notice in writing shall be given by any person or persons who may choose to do so, to any person or persons or corporation violating this act, that they are required to comply with the provisions of the first section of this act, and any person or corporation failing to comply therewith upon or before the expiration of ten days from the date of service of such notice, shall be liable to the said penalty of fifty dollars for each offense, to be recovered in an action of debt in any district court in any city or before any justice of the peace having jurisdiction in civil causes; such action may be brought as hereinafter provided, and the trial shall proceed as other actions of debt; the first process shall be a summons, returnable in not less than five days, nor more than ten days after the test thereof, and it shall not be necessary to indorse the same as in qui tam actions; the finding of the court shall be that the defendant has or has not (as the case may be) incurred the penalty claimed in the demand of the plaintiff, and judgment shall be given accordingly; in case execution shall issue and be returned unsatisfied, the court, on application, after notice to the defendant, may award an execution to take the body of the defendant as in other cases where a capias may issue out of any district court in this State; action may be brought for any violation of this act in the name of any person or persons of full age who will prosecute the same, and in case of recovery, one-half of the amount of the judgment recovered shall go [to] the person or persons in whose name the action is brought, and the other half shall be paid by the person or persons recovering the same to the treasurer of the State of New Jersey for the use of the State.

SEC. 2. This act shall take effect immediately.

Approved May 18, 1898.

CHAPTER 235.—*Fraudulently obtaining money upon promise of employment.*

SECTION 202. Any person who shall obtain from another, with intent to cheat and defraud, any money or anything of value, upon a promise or agreement to procure or to endeavor to procure for such person employment or a loan of money or anything of value, shall be guilty of a misdemeanor.

SEC. 218. Any person found guilty of any crime which by this, or any other statute, is declared to be a misdemeanor, shall be punished by a fine of not exceeding one thousand dollars, or by imprisonment, with or without hard labor, as the court may direct, for any term not exceeding three years, or both.

SEC. 219. Any offender who shall have been sentenced to imprisonment in the State prison under the laws of this State, and who shall be convicted of a second offense of the like nature, may be sentence[d] to imprisonment in the State prison for any period not exceeding double the time for which said offender might have been sentenced on the first offense.

Approved June 14, 1898.

CHAPTER 237.—*Convict labor.*

SECTION 162. It shall be the duty of the sheriff, warden or keeper of every county jail or penitentiary, to put and keep at such work as they are able to perform, any and all persons detained in his custody for the nonpayment of any fine or costs of conviction; such work to be directed and provided by the boards of chosen freeholders of the respective counties, and to be performed for the benefit thereof; any such person may be excused from such work, for good cause shown, by a judge of the court which may have imposed sentence on such person.

SEC. 167. The sheriff, warden or keeper of the county jail or penitentiary in any county is hereby authorized to employ and set at labor any convicted person committed to his care and custody at any reasonable labor, such as cooking, cleaning, gardening, mechanical or other service necessary to be performed within the bounds of the court-house or county property.

Approved June 14, 1898.

OHIO.

ACTS OF 1898.

PAGE 30.—*Inspection of factories, etc.*

SECTION 1. Supplementary section 2573c of the Revised Statutes of Ohio, as amended and passed April 25, 1893 (O. L., vol. 90, page 308), [shall] be amended so as to read as follows:

SECTION 2573c. Said inspectors, if they find upon such inspection that the heating, lighting, ventilation or sanitary arrangement of any shop or factory is such as to be injurious to the health of persons employed or residing therein, or that the means of egress in case of fire or other disaster is not sufficient, or that efficient means for extinguishing fire is not provided on each floor, or that the belting, shafting, gearing, elevators, drums and machinery in such shops and factories are located so as to be dangerous to employees, and not sufficiently guarded, or that the vats, pans or structures filled with molten metal or hot liquid are not surrounded with proper safeguards for preventing accident or injury to those employed at or near them, shall notify the owners, proprietors or agents of such shops or factories, or report the same to the chief inspector, who shall notify, in writing, the owners, proprietors or agents of such shops or factories by mailing such notification to the last known address of such owners, proprietors or agents to make the alterations or additions necessary without delay: *Provided, however,* That for such of the alterations and additions ordered as may be of such nature as to make it impossible to comply with immediately, the chief inspector may grant from fifteen (15) to thirty (30) days' time from date of first notification to such owners, proprietors or agents, in which to make such alterations and additions, and if such alterations are not made within the limit of time granted, such owners, proprietors or agents so notified, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not more than five hundred (500) dollars, and not less than fifty (50) dollars, and ten (10) dollars additional for each day after such conviction, until such alterations and additions necessary have been made, which fine shall be paid into the treasury of the county in which conviction is had. The district inspectors shall make a record of all examinations of shops and factories in their respective districts, showing the date when made, the condition in which such shops and factories are found, and what changes were ordered, the number of shops and factories in their respective districts, the number of men, women and children employed in each shop or factory, together with all such other facts and information of public interest, concerning the condition of such shops and factories, as they may think useful and proper, which record shall be filed in the office of the chief inspector every week, and so much thereof as may be of public interest to be included in his annual report. The chief inspector shall issue such instructions, make such rules and regulations for the government of the district inspectors not inconsistent with the powers and duties vested in them by law, as shall secure uniformity of action and proceedings throughout the different districts. The salary of the chief inspector shall be two thousand dollars ($2,000) per annum, and the district inspectors, one thousand dollars ($1,000) each per annum, which salaries and all necessary traveling expenses incurred by said inspectors in the discharge of their official duties, shall be paid out of the treasury of the State, from any fund therein not otherwise appropriated, on the warrant of the auditor, on the presentation to him of the proper vouchers.

SEC. 2. * * * This act shall take effect on and after its passage.

Passed March 3, 1898.

PAGE 33.—*Weighing of coal at mines.*

SECTION 1. The following sections [shall] be enacted supplementary to section 295, Revised Statutes of Ohio:

SECTION 295*a*. It shall be unlawful for any mine owner, lessee or operator of coal mines in this State, employing miners at bushel or ton rates, or other quantity, to pass the output of coal mined by said miners over any screen or other device which shall take any part from the value thereof, before the same shall have been weighed and duly credited to the employee sending the same to the surface, and accounted for at the legal rate of weights fixed by laws of Ohio.

SECTION 295*b*. The provisions of this act shall also apply to the class of workers, engaged in mines wherein the mining is done by machinery, known as loaders; whenever the workmen are under contract to load by the bushel, ton or any quantity, the settlement of which is had by weight, the output shall be weighed in accordance with the provisions of this act.

SECTION 295*c*. Any mine owner, lessee or operator of coal mines in this State, neglecting or refusing to comply with the conditions required to be performed by sections 295*a* and 295*b*, shall be deemed guilty of a misdemeanor, and upon conviction, be fined in any sum not exceeding six hundred ($600) dollars, nor less than three hundred ($300) dollars, at the discretion of the court.

SEC. 2. This act shall take effect from and after six months after its passage.

Passed March 9, 1898.

PAGE 35.—*Seats, dressing rooms, etc., for female employees.*

SECTION 1. Section 1 of an act entitled "An act for the preservation of the health of females," amended and passed March 6, 1891, and section 2 of the same act, passed April 16, 1885, [shall] be so amended as to read as follows:

SECTION 1. Every person or corporation employing female employees in any manufacturing, mechanical or mercantile establishments in this State, shall provide [a] suitable seat for the use of each female employee so employed, and shall permit the use of such by them when they are not necessarily engaged in the active duties for which they are employed, and shall permit the use of such seats at all times when such use would not actually and necessarily interfere with the proper discharge of the duties of such employees, and such seat shall be constructed or adjusted where practicable so as to be a fixture and not obstruct such female when actually engaged in the performance of such duties when such seat can not be used; and the owner of the building shall provide, on the same floor, or floor immediately above or below, of the building wherein any female persons are employed, suitable and separate toilet and dressing rooms and water-closets for the exclusive use of such female employees, and where possible, such dressing rooms and water-closets shall be situated together, with one water-closet for every twenty-five females or less, and where there are more than twenty-five there shall be provided an additional water-closet, up to the number of fifty, and above that number in the same ratio: *Provided*, That no such closet for the use of females shall be placed in a basement or cellar, unless such basement or cellar is used for manufacturing, mechanical or mercantile purposes, and females are employed therein: *And provided, further*, That such closets, in the same ratio as above mentioned, shall be placed on the outside of such building at a distance not to exceed twenty feet in such cities, towns and villages as are not provided with a system of waterworks; unless such building is provided with a dry closet system such closets to be kept in good sanitary condition at all times. The State inspector of factories and workshops is hereby charged with the duty of seeing that the provisions of this section are observed and enforced.

SECTION 2. Any person or corporation violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and on conviction thereof before any court of competent jurisdiction shall be punished by a fine of not less than ten dollars nor more than twenty-five dollars for each offense.

SEC. 2. * * * This act shall take effect and be in force from and after its passage.

Passed March 9, 1898.

PAGE 43.—*Factories and workshops—Accidents.*

SECTION 1. Section 2 [sec. 8772 of the Rev. St.] of the act entitled "An act to provide for the collection of information relative to accidents occurring in the workshops and factories of the State," [shall] be so amended as to read as follows:

SECTION 2 [8772 R. S.]. Any manufacturer who shall fail to comply with the requirements of this act in each case of death by accident within seven days thereafter, and in each case of injury by accident within thirty days thereafter, shall be deemed guilty of a misdemeanor, and on conviction thereof before any court of competent jurisdiction, shall be fined in any sum not less than ten dollars nor more than

fifty dollars. The term manufacturer, as applied in section one and in section two of this act, shall be held to mean any person who, as owner, manager, lessee, assignee, receiver, contractor, or who, as agent of any incorporated company makes or causes to be made or who deals in any kind of goods or merchandise, or who owns, controls or operates any street railway or laundrying establishment, or is engaged in the construction of buildings, bridges, or structures, or in loading or unloading vessels, or cars, or moving heavy materials, or operating dangerous machinery, or in the manufacture or use of explosives.

SEC. 2. * * * This act shall take effect on its passage.

Passed March 9, 1898.

PAGE 87.—*Factories and workshops—Hand rails on stairways.*

SECTION 1. Section 2 of the * * * act passed April 18, 1892 (O. L., vol. 89, page 374), [shall] be amended so as to read as follows:

SECTION 2. Any person or persons owning or having charge of such stairs or stairways, as directors, trustees, lessees, managers or proprietors of any of said buildings wherein said stairs are erected and used for the purposes aforesaid, and neglecting or refusing to provide said hand railings, and put up and keep up the same in manner aforesaid, shall be deemed guilty of a misdemeanor, and on conviction thereof before any court of competent jurisdiction shall be fined in any sum not less than ten nor more than one hundred dollars, and shall be liable to any person injured for the want of such railing or railings for all injury to such person or damages resulting therefrom; and it shall be the duty of the chief inspector of workshops and factories, or district inspectors, to enforce the provisions of this act.

SEC. 2. * * * This act shall take effect on and after its passage.

Passed April 7, 1898.

PAGE 113.—*Inspection of factories, etc.*

SECTION 1. Section 2573*b* of the Revised Statutes of Ohio [shall] be amended so as to read as follows:

SECTION 2573*b*. The said inspector shall have entry into all such shops and factories, including all public institutions of the State which have shops and factories, or either, at any reasonable time, and it shall be unlawful for the proprietors, agents or servants in such factories or shops to prevent, at reasonable hours, his entry into such shops and factories for the purpose of such inspection. And proof of the failure of the proprietor of any shop or factory to make the alterations or furnish the safeguards ordered by the inspector, within the time required by law, shall be deemed prima facie evidence of negligence and shall render such proprietor liable for any injury sustained by reason of such failure to make such alterations or furnish such safeguards.

SEC. 3. This act shall take effect and be in force from and after its passage.

Passed April 13, 1898.

PAGE 123.—*Employment of children, etc.*

SECTION 1. No child under the age of thirteen years shall be employed in any factory, workshop, mercantile or other establishment, directly or indirectly; and no boy under fifteen years of age, and no girl under sixteen years of age, shall be employed at any work performed for wages or other compensation, or in assisting any person employed as a wage-earner, when the public schools in which district such child resides are in session, providing this act shall not apply to females working at household work.

SEC. 2. No minor under sixteen years of age, and no girl under eighteen years of age, shall be employed at any work at nighttime later than seven o'clock in the evening nor earlier than six o'clock in the morning, and no minor under eighteen years of age shall be employed in any of the places named in section one of this act for a longer period than ten hours in one day, nor more than fifty-five hours in one week; and every such minor under eighteen years of age shall be entitled to no less than thirty minutes for meal time at noon, but such meal time shall not be included as part of the work hours of the day; and every employer shall post in a conspicuous place in every room where such minors are employed a printed notice stating the maximum number of work hours required in one week, and in each day of the week from such minors, such printed notice to be furnished by the chief inspector of workshops and factories, and approved by the attorney-general; and it shall be the duty of every employer of minors to keep a correct record of same, which shall be open to the inspection of the chief and district inspectors of workshops and factories, giving the name of each minor employed and place of birth,

residence of parents or guardians, and the character of employment engaged in by such minor, and such record shall be corrected whenever a change occurs in the employment of such minor.

SEC. 3. Any person or corporation who shall employ any minor contrary to the provisions of this act, or who shall violate any of the provisions thereof, shall upon conviction be fined in any sum not less than twenty dollars nor more than fifty dollars, or imprisoned not less than ten nor more than thirty days.

SEC. 4. It shall be the duty of the inspector of workshops and factories to prosecute all violations of this act, when the same shall come to his knowledge, before competent authority, and the chief and district inspectors of workshops shall have authority the same as is invested in the truant officer of any school district to enforce school attendance of any child found violating the school laws, or he shall make complaint of such violation to such truant officer, or to the clerk of the board of education in said district; and all fines collected under this act shall inure to the benefit of the school fund of the district where the offense was committed.

SEC. 5. Said sections 6986, 6986*aa*, 6986*bb* and 6986*c* [Revised Statutes of Ohio], as cited in title, are hereby repealed, and this act shall take effect and be in force on and after its passage.

Passed April 19, 1898.

PAGE 154.—*Protection of trainmen—Construction of overhead telegraph, etc., wires.*

SECTION 1. Hereafter all telegraph, telephone, electric light or other wires of any kind constructed over the line of any steam railroad within the State of Ohio shall be put up on good substantial poles of a size not less than twelve inches in diameter at the bottom and not less than six inches in diameter at the top and that they [shall] be set in the earth not less than one-sixth of their length and well tamped. Double cross-arms shall be used in all cases and all wires shall be insulated with glass or porcelain insulators, and securely fastened to both cross-arms. All wires to clear the top of the rails at least twenty-five feet, except in cases of trolley-wire crossings, when such height, as may be agreed upon, is approved by the commissioner of railroads and telegraphs shall govern. Where there is side strain, poles shall be well guyed or braced.

SEC. 2. It shall be the duty of the commissioner of railroads and telegraphs to see that the provisions of this act are enforced and he shall have the power to cause the removal of any such telegraph, telephone, electric light or other wires hereafter constructed over any railroad within the State of Ohio not constructed according to the provisions of this act.

SEC. 3. This act shall take effect and be in force on and after its passage.

Passed April 21, 1898.

PAGE 155.—*Factories and workshops—Blowers for friction wheels.*

SECTION 1. The act entitled "An act to create a better sanitary condition in workshops and factories where dust-creating machinery is used," passed April 17, 1896 (O. L., vol. 92, pages 186 and 187), [shall] be amended so as to read as follows:

SECTION 1. All persons, companies or corporations operating any factory or workshop, where emery wheels or emery belts of any description are used, either solid emery, leather, leather covered, felt, canvas, linen, paper, cotton, or wheels or belts rolled or coated with emery or corundum, or cotton wheels used as buffs, shall provide the same with blowers, or similar apparatus, which shall be placed over, beside or under such wheels or belts in such a manner as to protect the person or persons using the same from the particles of the dust produced and caused thereby, and to carry away the dust arising from or thrown off by such wheels or belts while in operation, directly to the outside of the building, or to some receptacle place, so as to receive and confine such dust: *Provided,* That grinding machines upon which water is used at the point of the grinding contact and small emery wheels that are used temporarily for tool grinding and small shops employing not more than one man at such work and do not create dust enough in the opinion of the inspector to be injurious to the operator, shall be exempt from the provisions of this act.

SECTION 2. It shall be the duty of any person, company or corporation operating any such factory or workshop to provide or construct such appliances, apparatus, machinery or other things necessary to carry out the purpose of this act, as set forth in the preceding section, as follows: Each and every such wheel shall be fitted with a sheet or cast iron hood or hopper of such form and so applied to such wheel or wheels that the dust or refuse therefrom will fall from such wheel, or will be thrown into such hood or hopper by centrifugal force and be carried off by the current of air into a suction pipe attached to same hood or hopper.

SECTION 3. Each and every such wheel, six inches or less in diameter, shall be provided with a three-inch suction pipe; wheels six inches to twenty-four inches in

diameter with four-inch suction pipe; wheels from twenty-four inches to thirty-six inches in diameter with five-inch suction pipe; and all wheels larger in diameter than those stated above shall be provided each with a suction pipe not less than six inches in diameter. The suction pipe from each wheel, so specified, must be full size to the main trunk suction pipe, and the main suction pipe to which smaller pipes are attached shall, in its diameter and capacity, be equal to the combined area of such smaller pipes attached to the same, and the discharge pipe from the exhaust fan, connected with such suction pipe or pipes, shall be as large, or larger, than the suction pipe.

SECTION 4. It shall be the duty of any person, company or corporation operating any such factory or workshop to provide the necessary fans or blowers to be connected with such pipe or pipes, as set forth in this act, which shall be run at a rate of speed such as will produce a velocity of air in such suction or discharge pipes of at least nine thousand feet per minute to an equivalent suction or pressure of air equal to raising a column of water not less than five inches in a U-shaped tube. All branch pipes must enter the main trunk pipe at an angle of forty-five degrees or less; the main suction or trunk pipe shall be below the emery or buffing wheels, and as close to the same as possible, and to be either upon the floor or beneath the floor on which the machines are placed to which such wheels are attached. All bends, turns or elbows in such pipes must be made with easy, smooth surfaces, having a radius in the throat of not less than two diameters of the pipe on which they are connected.

SECTION 5. It shall be the duty of the chief inspector of workshops and factories to cause his district inspectors to inspect such workshops and factories in this State having and using such machinery as is named in this act, as often as he may deem advisable, and the district inspector shall have entry to such workshops and factories at all times when directed to make such inspection, and shall report to the chief inspector such violations as he may find, and the chief inspector shall notify the person or persons, company or corporation operating such workshop or factory to comply with the provisions of this act within thirty days after date of issuing order, which notification shall be in writing and may be served by the district inspector or mailed to the last known address of such person, persons, company or corporation, which service shall be deemed sufficient notice for the purpose of this act.

SECTION 6. Any person, or persons, company or corporation, or agent having charge of or the management of such workshop or factory, failing to comply with the provisions of this act, and with such orders for changes as may be issued by the chief inspector, within thirty days after the same has been issued, shall be deemed guilty of a misdemeanor, and upon conviction thereof before any court of competent jurisdiction, shall be fined not less than fifty dollars nor more than one hundred dollars for each offense or imprisoned in the county jail not less than thirty days, or both such fine and imprisonment, in the discretion of the court.

SEC. 2. * * * This act shall take effect and be in force from and after its passage.

Passed April 21, 1898.

PAGE 159.—*Regulation, inspection, etc., of bakeries.*

SECTION 1. The above-named act ["An act for the regulation of the manufacture of flour and meal food products"], passed April 27, 1896 (O. L., vol. 92, pages 393 and 394), [shall] be amended so as to read as follows:

SECTION 1. All buildings or rooms occupied as biscuit, bread or cake bakeries shall be drained and plumbed in a manner to conduce to the proper healthful and sanitary condition thereof, and constructed with air shafts, windows or ventilating pipes, sufficient to insure ventilation, such as the chief or district inspector shall direct; and no cellar or basement not now used as a bakery, shall be hereafter used and occupied as a bakery, and a cellar heretofore occupied shall, when once closed, not be reopened, unless the proprietor shall have previously complied with the provisions of this act.

SECTION 2. Every such bakery shall be provided with a proper wash room and water-closet or closets, apart from the bake room or rooms where the manufacturing of such food products is conducted; and no water-closet, earth closet, privy or ash pit shall be within or communicate directly with a bake shop, or any bakery for a hotel or public restaurant.

SECTION 3. Every room used for the manufacture of flour or meal food shall be at least eight feet in height; the side walls of such rooms shall be plastered or wainscoted, ceiling plastered or ceiled with lumber or metal, and if required by the inspector, shall be whitewashed at least once in three months, and the furniture and utensils of such rooms shall be so arranged as to be easily moved, that the furniture and floor may at all times be kept in proper healthful sanitary condition.

SECTION 4. The manufactured flour or meal food products shall be kept in perfectly dry and airy rooms, so arranged that the floors, shelves, and all other facilities for storing the same can be easily and perfectly cleaned.

SECTION 5. The sleeping places for persons employed in a bakery shall be kept separate from the room or rooms where flour or meal food products are manufactured or stored, and the chief inspector or district inspector may inspect such sleeping places, if they are on the same premises as the bakery, and order them cleaned or changed in compliance with sanitary principles.

SECTION 6. After the inspection of a bakery has been made and it is found to conform to this act, the chief inspector may issue a certificate to the owner or operator of such bakery, that it is conducted in compliance with all the provisions of this act; but where orders are issued by the inspector to improve the condition of a bakery no such certificate shall be issued until such order and the provisions of this act shall have been complied with.

SECTION 7. For the purpose of enforcing this act, the chief inspector of workshops and factories shall appoint two additional district inspectors who shall be appointed in the same manner and possess the same qualifications, and whose term of office shall be the same, and on the same conditions and clothed with the same powers, and receive the same compensation as the district inspector authorized by section 2573*a* including sections two and three, section 2573*a*-2, 2573*b* and 2573*c* Revised Statutes.

SECTION 8. The owner, agent or lessee of any property affected by the provisions of this act, shall within thirty days after the service of a notice requiring any alterations to be made in or upon such premises, comply therewith, and such notice shall be in writing and may be served upon such owner, agent or lessee either personally or by mail, and a notice mailed to the last known address of such owner, agent or lessee, shall be deemed sufficient for the purpose of this act.

SECTION 9. Any person who violates the provisions of this act or refuses to comply with any requirement of the chief or district inspector, as provided herein, shall be guilty of a misdemeanor, and on conviction thereof before any court of competent jurisdiction, shall be punished by a fine of not less than twenty nor more than fifty dollars for the first offense, and not less than fifty nor more than one hundred dollars for the second offense, or imprisonment for not more than ten days, and for the third offense by a fine of not less than two hundred dollars and not more than thirty days' imprisonment.

SEC. 2. * * * This act shall take effect from and after its passage.

Passed April 21, 1898.

PAGE 163.—*Weighing of coal at mines.*

SECTION 1. Whoever shall be employed to weigh coal as it comes from the mine where mined, when such weight shall be the weight upon which the amount of mining for the person mining such coal shall be estimated, and the weight upon which the royalty due the owner of the lands from which such coal shall be mined, shall be estimated at any mine where ten or more miners shall be employed, shall take and subscribe an oath before some competent officer to administer such oath, that he will correctly weigh all coal taken from such mine under existing contracts between operator, miner and landowners, and give due credit for the same to the miner mining such coal in said mine, and the landowner when required, owning the lands from which such coal is mined, and shall enter into bond in the sum of three hundred dollars, with two sufficient sureties and payable to the State of Ohio, said bond to be approved by and filed with the township clerk of the township where such mine may be situated for the faithful discharge of such oath. Said oath to be indorsed upon said bond.

SEC. 2. It shall be the duty of the prosecuting attorney of the county in which such mine is situated, to prosecute all persons charged with violation of such oath.

SEC. 3. Any person convicted of such violation shall be fined in the sum of not less than fifty dollars, nor more than five hundred dollars, or imprisoned in the county jail of the county where conviction is had for not less than ten days nor more than sixty days, or both, at the discretion of the court.

SEC. 4. This act shall take effect and be in force from and after September 1, 1898.

Passed April 21, 1898.

PAGE 164.—*Employment of children in mines.*

SECTION 1. Section 302 [Revised Statutes shall] be so amended as to read as follows:

SECTION 302. No child under fifteen years of age shall be allowed to work in any mine, and in all cases of minors applying for work the agent of such mine shall see that the provisions of this section are not violated; he shall also keep a record of all minors employed by him, or by any person employed in said mine, giving the name, age, place of birth, parents' name and residence, with character of employment, and he shall demand from such minor proof that he has complied with the requirements of the school laws; and it shall be the duty of the mine inspector to inspect

such record and to report to the chief inspector of mines the number of minors employed in or about such mines and to enforce the provisions of this section.

SEC. 2. * * * This act shall take effect and be in force from and after its passage.

Passed April 21, 1898.

PAGE 286.—*Automatic couplers, etc., on cars.*

SECTION 1. Every railroad corporation operating a railroad or part of a railroad, in this State, shall, on or before the first day of January, A. D. 1900, equip and furnish all cars owned and leased used in its service in this State with automatic couplers, coupling automatically, and which can be uncoupled without the necessity of men going between the ends of the cars; and shall equip, furnish and operate all cars in its passenger service, and not less than thirty per cent of the cars in its freight service with air-brakes; and no freight train shall, after such date, be run by any such railroad corporation over any part of its road lying within this State unless at least twenty-five per cent of the cars composing such freight train are so equipped, furnished and operated with perfectly acting air-brakes and so as to enable the engineer to control the speed of the train without the use of hand brakes: *Provided,* That on or before January 1, 1899, twenty-five (25) per cent of all the automatic couplers and air-brakes hereinbefore provided to be put upon cars shall be so furnished on or before January 1, 1899.

SEC. 2. And it shall be the duty of any railroad corporation operating a railroad or part of a railroad within this State, to report to the commissioner of railroads every six months after the passage of this act, and until the first day of January, A. D. 1900, the number and class of cars in their service equipped with such automatic couplers and air-brakes, and the number of cars not so equipped; to report upon blanks furnished by such commissioner.

SEC. 4. This act shall take effect and be in force from and after its passage.

Passed April 25, 1898.

PAGE 342.—*Railroad companies—Blocking of frogs, etc.*

SECTION 1. An act entitled "An act for the protection of railroad employees," passed March 23, 1888 (O. L., vol. 85, page 105), [Sec. 3365—18 R. S. shall] be amended so as to read as follows:

[SECTION 3365—18.] Every railroad corporation operating a railroad or part of a railroad in this State, shall on or before the first day of June, 1899, adjust, fill or block, all angles in frogs, switches and crossings on their roads in all yards, divisional and terminal stations where trains are made up, with the best known sheet steel spring guard or wrought iron appliances approved by the commissioner of railroads and telegraphs.

SEC. 2. * * * This act shall take effect and be in force from and after its passage.

Passed April 25, 1898.

PAGE 349.—*Convict labor—State reformatory.*

SECTION 1. * * * Section 7388—25 [R. S. shall] be amended so as to read as follows:

SECTION 8 [7388—25 R. S.]. The discipline to be observed in said Ohio State reformatory shall be reformatory, and the managers shall have power to employ such means of reformation for the improvement of the inmates as they may deem expedient. The labor imposed upon inmates, or industrial pursuits prescribed for the employment of their time, shall also be at the discretion of the board of managers, except that what is known as the contract system of prison labor shall not be employed. The superintendent is hereby authorized to place to the credit of each prisoner, such amount of his earnings as the board of managers may deem equitable and just, taking into consideration the character of the prisoner, the nature of the crime for which he is imprisoned, and his general deportment: *Provided,* That such credit shall in no case exceed twenty per cent of his earnings, and the funds thus accruing to the credit of any prisoner shall be paid to him, or his family, at such time and in such manner as the board of managers may deem best: *Provided,* That at least twenty-five per cent of such earnings shall be left for and paid to such prisoner at the time of his restoration to citizenship: *And provided, further,* That the superintendent may, with the approval of the managers, by way of punishment for violation of rules, and of propriety, or any other misconduct, cancel such portion of such credit as he may deem best.

SEC. 2. * * * This act shall take effect and be in force from and after its passage.

Passed April 25, 1898.

PAGE 358.—*Sunday labor.*

SECTION 1. Section 7033 of the Revised Statutes [shall] be so amended as to read as follows:

SECTION 7033. Whoever, being over fourteen years of age, engages in common labor on the first day of the week, commonly called Sunday; and whoever, being over fourteen years of age, shall open or cause to be opened any building or place for the transaction of business on the first day of the week commonly called Sunday, or who shall require any person in his employ or under his control to engage in common labor on Sunday, shall, on complaint made within ten days thereafter, and upon conviction, be fined, for the first offense, twenty-five dollars, and for each subsequent offense such person shall be fined not less than fifty dollars nor more than one hundred dollars, and imprisoned not less than five days nor more than thirty days. But this section does not apply to or embrace works of necessity or of charity, and does not extend to persons who conscientiously observe the seventh day of the week as the Sabbath, and who do in fact abstain, on that day, from the doing of the things herein prohibited on Sunday; nor shall it be so construed as to prevent families emigrating from traveling, or watermen from landing their passengers, or keepers of tollbridges, tollgates or ferries from attending the same, on Sunday.

SEC. 2. * * * This act shall take effect and be in force from and after its passage.

Passed April 26, 1898.

RECENT GOVERNMENT CONTRACTS.

[The Secretaries of the Treasury, War, and Navy Departments have consented to furnish statements of all contracts for constructions and repairs entered into by them. These, as received, will appear from time to time in the Bulletin.]

The following contracts have been made by the office of the Supervising Architect of the Treasury:

CAMDEN, N. J.—November 16, 1898. Contract with Charles McCaul, Philadelphia, Pa., for the construction of post-office, except heating apparatus and electric-wire conduits, $153,669. Work to be completed within one year.

NORFOLK, VA.—December 1, 1898. Contract with McIlvain, Unkefer Company, Pittsburg, Pa., for the construction of court-house and post-office, except heating apparatus, elevator, and electric-wire conduits, $162,966. Work to be completed within sixteen months.